



## AUXILIUM COLLEGE (Autonomous)

(Accredited by NAAC with A+ Grade with a CGPA of 3.55 out of 4 in the 3<sup>rd</sup> cycle)  
Gandhi Nagar, Vellore – 6.

**1.1.1. Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific Outcomes(PSOs) and Course Outcomes(COs) of the Programmes offered by the Institution.**

### FOCUS: HUMAN VALUE (NEEDS)

Programme	Course Code	Title of Course	Description	PO	PSO	CO
B.A. English	UENGA20	General English Paper-I	Celebrates Nature, Fables on Morals, Parables on Humanism from the spectrum of Children's Literature	Appreciate biodiversity and enhance eco-consciousness for sustainable development of the society.	Remember the principles of Literature in general and English Literature in particular and understand its typological, critical, socio cultural aspects	Use the LSRW (listening, speaking, reading & writing) skills in English language with ease in academic and real-life situations.
B.A. English	UENGB20	General English Paper-II	Imparts realization of true freedom, essence of culture, hour of philosophy, need of religiosity through the spectacle of Indian writing in English	Acquire and apply analytical, critical and creative thinking, and problem-solving skills	Apply the knowledge of form, structure, history and contextual cultural diversity and comprehend the applications of the English Language in practice	Relate with the time-tested values of Indian culture and assimilate communicative skills through the reading of texts by Indian English writers

B.A. English	UENGC20	General English Paper-III	Glimpses the basic rights of Life, propagates peace, instills non-violence	Emulate positive social values and exercise leadership qualities and team work.	Appreciate life, think critically, and develop positive, interpersonal relationship with fellow humans	Enable students to be aware of the contemporary social issues of national and global importance.
B.A. English	UENGD20	General English Paper-IV	Shows the importance to aware the basic rights of women and of elders	Acquire and apply analytical, critical and creative thinking, and problem-solving skills	Discern avenues for higher learning, career options, and venture entrepreneurship	Develop knowledge about the system of Governance and its regulations.
B.A. English	UCENF20	American Literature	By sensitizing students on issues through literary works, like slave trade and imperialism, the course highlights the importance of values like equality and social justice	Attain knowledge and understand the principles and concepts in the respective discipline. Emulate positive social values and exercise leadership qualities and team work.	Remember the principles of Literature in general and English Literature in particular and understand its typological, critical, socio cultural aspects	Identify characteristic forms or styles of expression during different historical periods in different regions. Discuss the issues, conflicts, preoccupations and themes of various literary texts. Examine the historical, cultural, rhetorical contexts in which the literary texts were written. Analyze literary works as expressions of individual or communal values within the social, political, cultural or religious contexts of different literary periods.

B.A. English	UCENG20	Neo-classical Literature	Literary works of the period engage students on the need to amalgamate the best values of the old/classical times and the modern times	Attain knowledge and understand the principles and concepts in the respective discipline. Emulate positive social values and exercise leadership qualities and team work.	Remember the principles of Literature in general and English Literature in particular and understand its typological, critical, socio cultural aspects	Identify characteristic forms or styles of expression during different historical periods in different regions. Discuss the issues, conflicts, preoccupations and themes of various literary texts. Examine the historical, cultural, rhetorical contexts in which the literary texts were written. Analyze literary works as expressions of individual or communal values within the social, political, cultural or religious contexts of different literary periods.
B.A. English	UCENH20	Romantic Literature	The course sensitizes students on the value of nature, environment, ecology and human lives	Attain knowledge and understand the principles and concepts in the respective discipline. Appreciate biodiversity and enhance eco-consciousness for sustainable development of the society. Emulate positive social values and exercise	Remember the principles of Literature in general and English Literature in particular and understand its typological, critical, socio cultural aspects	Locate the historical and cultural context of English Romanticism. Discuss the traits of Romanticism with emphasis on concepts of self, imagination and the unconscious Apply historical, social, philosophical and political contexts to interpret texts

				leadership qualities and team work.		
B.A. English	UCENI20	Shakespeare	The course trains students to read and assimilate positive human values as represented by a Universally acclaimed writer as Shakespeare	Attain knowledge and understand the principles and concepts in the respective discipline. Effectively communicate general and discipline-specific information, ideas and opinions. Emulate positive social values and exercise leadership qualities and team work.	Remember the principles of Literature in general and English Literature in particular and understand its typological, critical, socio cultural aspects	Identify the seminal works of Shakespeare Understand the style and literary devices used by him CO3 Analyse the relevance of Shakespeare in Elizabethan Drama and later beyond the confines of time and space Evaluate Criticism of Shakespeare's works from critics from various timeframes.
B.A. English	UCENJ20	Victorian Literature	The course introduces students to those human values represented by Victorian writers centered on the rights of orphans, aged, children and factory workers	Attain knowledge and understand the principles and concepts in the respective discipline. Effectively communicate general & discipline-specific information ideas and opinions. Emulate positive social values and exercise leadership qualities and team work.	Remember the principles of Literature in general and English Literature in particular and understand its typological, critical, socio cultural aspects	Locate the realm of the Victorian era in the field of Historical Literary Studies Discuss the shift/transition from an Idealistic to the Realistic World of Living Examine different forms/genres personalized by Victorian writers with the predominant themes of the Age

B.A. English	UEENA20	Elective I A: Indian Writing in Translation	The course sensitizes students on the human values like patriotism, women education and empowerment, family values, motherhood, multiculturalism and pluralistic diversity of Indian culture	Attain knowledge and understand the principles and concepts in the respective discipline. Emulate positive social values and exercise leadership qualities and team work.	Remember the principles of Literature in general and English Literature in particular and understand its typological, critical, socio cultural aspects	Appreciate the diversity of literary and social voices within and sometimes marginalized by those traditions. Analyse the “Indian-ness” and the writing style of the native writers.
B.A. English	UEENE20	Elective III A: New Literatures in English	The course sensitizes students on those human values denied during the times of slave trade, colonial expansion and war through the literary texts produced by writers, activists and victims of Imperialism from the so-called " former European colonies"	Attain knowledge and understand the principles and concepts in the respective discipline. Effectively communicate general and discipline-specific information, ideas and opinions. Emulate positive social values and exercise leadership qualities and team work.	Remember the principles of Literature in general and English Literature in particular and understand its typological, critical, socio cultural aspects	Identify the relationship between Great Britain and Nations that were once colonized. Describe modes of writing and reading that interrogate histories and the presence of colonial mentalities and ways of life in a variety of postcolonial locations. Discuss the problems of race, class, history and identity presented in the Postcolonial texts. Analyze the problems of identity, subjugation and cultural identification Appraise the complex maze of theoretical terms and concepts that characterize Postcolonial studies and savor the wonderful variety and

						richness of Literature.
B.A. History	UCHIM20	Indian Polity and Constitution	To enhance the student's role as enlightened citizens and make the learners aware of their rights and duties	Attain knowledge and understand the principles and concepts in the respective discipline	Develop a critical approach to the study of History and effectively communicate the values and ideas of the leaders to the Society and become the Agents of social change.	Estimate the Indian Polity System.
B.A. History	UCHII20	History of Ancient civilization	To help the students to understand the World Civilization and its contribution to the World	Effectively communicate general and discipline-specific information, ideas and options	Acquire the social values that indwell in History to become the leaders of politics and commit to work for social justice, peace, and sustainable development	Compare the Early Civilizations with Modern Civilization and to become the Agents of the Social Change and communicate the ideas and principles of Hebrew, Persian civilization
B.B.A	UABEA20	Business Environment and Ethics	To know about the environment and its impact on business. Recognize the importance of business ethics and social responsibility in today's business	Prepare the students to be persistent enough to pull out their own ideas and opinions and to become a strong pillar to the family and society highlighting their feminine power.	To attain the ability to be self - directed towards their career and contribute to the society as responsible citizens.	To recognize the importance of business ethics and social responsibility as an individual to the society

B.B.A	UCBAM20	Industrial Relations	Course is designed to cover the basic concepts of Industrial Relations	To bring up the economically challenged, socially backward young women to be competent with today's expectation of the competitive world for their sustenance	To acquire the ability to be a future leader, manager and an entrepreneur reflecting ethical and social values.	Understand the basic concepts of Industrial relations like payment of wages act, factories act, maternity act, Industrial disputes act, Employees state insurance act.
B.Com	UECOA20	Principles of Management	Learn how to behave in business enterprise and encourage the employees in the art of management	Persist in life-long learning for personal and societal progress.	Integrate cognitive and analytical skills to manage financial aspects of Business and Banks.	To become versatile in coordinating and developing the skill of effective communication
B.Com	UCCOQ20	Income Tax Law and Practice II	Gained practical knowledge on filing of returns of income.	Apply ethical principles in promoting values and attitudes and become responsible towards the practice of accounting norms	Apply the practical knowledge gained over the years in the field of auditing, tax filing, share market and other finance related services	To make the students learn the importance of Computation of Total Income and Tax Liability of Individuals
B.Com	USCOA120 / USCOA220	Consumer Awareness	Learn ways and means in safeguarding the rights of consumers	Life Long Learning recognize the need for and have the ability to engage in lifelong learning process to cope up with the emerging trends in social, cultural, economic and	Addressing the needs of the nation cater to the needs of the society so as to contribute for the development of the nation	Students gained conceptual knowledge on the social responsibilities of the consumers



				technological changes		
B.Sc. Biochemistry	UCBCA20	Bioorganic Chemistry	To provide a clear note on the bioorganic compounds.	Attain knowledge and understand the principles and concepts in the respective discipline.	Create an awareness of resources and enhance eco - consciousness for sustainable development of society	Explain the crucial role of vitamins and minerals for maintaining healthy life.
B.Sc. Biochemistry	UCBCC20	Main Practical-I	To provide a wide practical knowledge on Qualitative and Quantitative Analysis.	Attain knowledge and understand the principles and concepts in the respective discipline.	Create an awareness of resources and enhance eco - consciousness for sustainable development of society	Explain the idea on the cell division process
B.Sc. Biochemistry	UCBCB20	Cell Biology	To provide a deep knowledge about cell – the basic unit of life.	Attain knowledge and understand the principles and concepts in the respective discipline.	Create an awareness of resources and enhance eco - consciousness for sustainable development of society	Develop knowledge about the functions of various subcellular organelles
B.Sc. Biochemistry	UCBCD20	Biochemical techniques	To study about the principles and applications of biochemical techniques.	Attain knowledge and understand the principles and concepts in the respective discipline.	Create an awareness of resources and enhance eco - consciousness for sustainable development of society	Develop the ability to apply the principles of biochemical techniques



B.Sc. Biochemistry	UCBCE20	Physiology and Nutrition	To understand the homeostatic mechanism of each organ.	Attain knowledge and understand the principles and concepts in the respective discipline.	Create an awareness of resources and enhance eco - consciousness for sustainable development of society	Identify the nutrients in food and their functions in maintaining health
B.Sc. Biochemistry	UCBCF20	Main Practical-II	To inculcate practical skill in Biochemistry.	Attain knowledge and understand the principles and concepts in the respective discipline.	Create an awareness of resources and enhance eco - consciousness for sustainable development of society	Work safely and effectively in a laboratory
B.Sc. Biochemistry	USBCBn20	Skill Based Elective: Health Care for Women	To provide awareness about common health problems of women and how to overcome certain diseases	Attain knowledge and understand the principles and concepts in the respective discipline.	Create an awareness of resources and enhance eco - consciousness for sustainable development of society	Outline the Stages of women hood
B.Sc. Biochemistry	UCBCG20	Enzymes & Intermediary metabolism	To impart knowledge about the enzymes and the metabolism of biomolecules and its interrelationship.	Attain knowledge and understand the principles and concepts in the respective discipline.	Create an awareness of resources and enhance eco - consciousness for sustainable development of society	Revise the metabolic activity of tissues and organ with their function

B.Sc. Biochemistry	UCBCH20	Endocrinology	Endocrinology describes in detail the role of endocrine glands, their secretion and its regulatory effect on metabolic activities to maintain homeostasis.	Attain knowledge and understand the principles and concepts in the respective discipline.	Create an awareness of resources and enhance eco - consciousness for sustainable development of society	Demonstrate the mechanisms of hormone action
B.Sc. Biochemistry	UEBCA20	Elective IA: Immunology	To help the students to understand the components of Immune system	Attain knowledge and understand the principles and concepts in the respective discipline.	Create an awareness of resources and enhance eco - consciousness for sustainable development of society	Outline the cell types and organ present in the immune response
B.Sc. Biochemistry	UEBCB20	Elective IB: Environmental Toxicology	To understand the basics in toxicological aspects that effect the environment.	Attain knowledge and understand the principles and concepts in the respective discipline.	Create an awareness of resources and enhance eco - consciousness for sustainable development of society	Discuss the role of poison information services and systems for the surveillance of Poisoning
B.Sc. Biochemistry	UCBCJ20	Main Practical-III	The course is aimed to enhance the practical skill of the student in handling and estimating the components present in the biological samples.	Attain knowledge and understand the principles and concepts in the respective discipline.	Create an awareness of resources and enhance eco - consciousness for sustainable development of society	Apply the safety measures in the laboratory

B.Sc. Biochemistry	UCBCK20	Main Practical-IV	The course is aimed to enhance the practical skill of the student in handling and estimating the components present in the biological samples.	Attain knowledge and understand the principles and concepts in the respective discipline.	Create an awareness of resources and enhance eco - consciousness for sustainable development of society	Apply the safety measures in the laboratory
B.Sc. Biochemistry	USBCCn20	Skill Based Elective: III: Entrepreneurial Biochemistry	To understand the concept of entrepreneurship	Attain knowledge and understand the principles and concepts in the respective discipline.	Create an awareness of resources and enhance eco - consciousness for sustainable development of society	Explain the theory of entrepreneurship and its practical implementation
B.Sc. Biochemistry	UCBCI20	Molecular Biology	To make a study on life and the information centers called genes.	Attain knowledge and understand the principles and concepts in the respective discipline.	Create an awareness of resources and enhance eco - consciousness for sustainable development of society	Analyze the blueprint of life
B.Sc. Biochemistry	UEBCC20	Elective IIA: Clinical Biochemistry	To understand the biochemical basis of various diseases and disorders	Attain knowledge and understand the principles and concepts in the respective discipline.	Create an awareness of resources and enhance eco - consciousness for sustainable development of society	Compare the application of diagnostic enzymes

B.Sc. Biochemistry	UEBCD20	Elective IIB: Pharmacology	To make detailed study of drugs, and their actions on living systems	Attain knowledge and understand the principles and concepts in the respective discipline.	Create an awareness of resources and enhance eco - consciousness for sustainable development of society	Discuss the basic understanding of detoxification mechanisms
B.Sc. Biochemistry	UEBCE20	Elective IIIA: Biotechnology	To explore the applications and future potential of Biotechnology	Attain knowledge and understand the principles and concepts in the respective discipline.	Create an awareness of resources and enhance eco - consciousness for sustainable development of society	Identify and debate the ethical and social issues in the field of biotechnology and get insight in application of rDNA technology
B.Sc. Biochemistry	UEBCF20	Elective IIIB: Plant Biochemistry	To explore the applications of plant and their products	Attain knowledge and understand the principles and concepts in the respective discipline.	Create an awareness of resources and enhance eco - consciousness for sustainable development of society	Create the impact of nitrogen, Sulphur and carbon cycle on nature
B.Sc. Biochemistry	USBCDn20	Skill Based Elective: IV- Medical Laboratory Technology	To make detailed study of the organization and functions of a laboratory	Attain knowledge and understand the principles and concepts in the respective discipline.	Create an awareness of resources and enhance eco - consciousness for sustainable development of society	Demonstrate about the blood transfusion method

B.Sc. Biochemistry	USBCAn20	Skill Based Elective: II - Nutritional Biochemistry	To make a note on nutrients and its role on metabolism.	Attain knowledge and understand the principles and concepts in the respective discipline.	Create an awareness of resources and enhance eco - consciousness for sustainable development of society	Explain the functions of specific nutrients in maintaining health
B.Sc. Biochemistry	UABCA20	Allied Biochemistry - I	To acquire knowledge on the structure and the function of biomolecules	Attain knowledge and understand the principles and concepts in the respective discipline.	Create an awareness of resources and enhance eco - consciousness for sustainable development of society	Identify the role of water- and fat-soluble vitamins for maintaining healthy life
B.Sc. Biochemistry	UABCB20	Allied Biochemistry - II	To understand the basic of metabolic pathway	Attain knowledge and understand the principles and concepts in the respective discipline.	Create an awareness of resources and enhance eco - consciousness for sustainable development of society	Understand the role of minerals in health and disease
B.Sc. Biochemistry	UABCC20	Allied Biochemistry Practical	To acquire knowledge on the structure and the function of biomolecules	Attain knowledge and understand the principles and concepts in the respective discipline.	Create an awareness of resources and enhance eco - consciousness for sustainable development of society	Outline the various techniques adopted for separation of biomolecules

B.Sc. Biochemistry	UGBCAn20	NME: Disease and Treatment	To provide a basic knowledge about common diseases and its treatment.	Attain knowledge and understand the principles and concepts in the respective discipline.	Create an awareness of resources and enhance eco - consciousness for sustainable development of society	Acquire a broad knowledge about the deadliest diseases in the world
B.Sc. Biochemistry	UCBCBn20	NME: Therapeutic Agents	To impart knowledge on action of drugs in treating diseases.	Attain knowledge and understand the principles and concepts in the respective discipline.	Create an awareness of resources and enhance eco - consciousness for sustainable development of society	Utilize the importance of first aid in accidents to preserve life
B.Sc. Visual Communication	UAHCA20	Allied – I: Human Communication	To enable students, understand the basic concepts of Human communication and the evolution of communication skills.	Effectively communicate general and discipline-specific information, ideas and opinions.	To become a socially responsible citizen with a global vision.	Applying the Communication Skills in Public Speaking.
B.Sc. Visual Communication	UCVCG20	Media, Culture and Society	To enable the students to understand the theories of media and the impact of media on society and culture	Appreciate biodiversity and enhance eco-consciousness for sustainable development of the society.	To become a socially responsible citizen with a global vision.	Analyze the various models of media and Categories the ecological perspective of media audience

B.Sc. Visual Communication	UAJLA20	Allied-IV: Journalism	To introduce the field of Visual Nature of journalism in various media and to develop journalistic skills in students	Emulate positive social values and exercise leadership qualities and team work.	To become ethically committed media professionals and entrepreneur by adhering to human values, Indian, and the Global culture.	Evaluating the role of journalist in the stream of electronic media.
B.Sc. Visual Communication	UCVCN20	Project -1 Documentary Production	To train students in short-film making or documentary making by putting into practice the techniques learned in television production and script writing through team work.	Emulate positive social values and exercise leadership qualities and team work.	To make women professionals in media and attain professional portfolios to become entrepreneurs to increase employability.	Presenting the Documentation with Master Copy.
B.Sc. Visual Communication	UCVCO20	Media Laws & Ethics	To familiarize students with the framework of laws that apply to the field of electronic as well as print media	Appreciate biodiversity and enhance eco-consciousness for sustainable development of the society.	To become ethically committed media professionals and entrepreneur by adhering to human values, Indian, and the Global culture.	Explaining the Concept of Media Laws and Rights
B.Sc. Visual Communication	UCVCR20	Project – 2 - Short Film Production	To train students in short-film making or documentary making by putting into practice the techniques learned in television production and script writing	Emulate positive social values and exercise leadership qualities and team work.	To make women professionals in media and attain professional portfolios to become entrepreneurs to increase employability.	Presenting the Documentation with Master Copy.



B.Sc. Zoology	UCZOE20	Genetics and Evolution	Students will understand the importance of improving the quality of living by making correct choices.	Emulate positive social values and exercise leadership qualities and team work.	Exercise leadership qualities and moral values through ethical ways with the concern for the society.	Analyze the types of Gene Mutation, Chromosomal aberrations, syndromes and inborn errors in metabolism. Explain Population Genetics
B.Sc. Zoology	UCZOG20	Developmental Biology	Bioethical issues pertaining to Assisted Reproductive Technology	Emulate positive social values and exercise leadership qualities and team work.	Exercise leadership qualities and moral values through ethical ways with the concern for the society.	Discuss Assisted Reproductive Technologies.
B.Sc. Psychology	UCPYF21	Health psychology	To introduce the relationship between psychological factor and physical health	Appreciate biodiversity and enhance eco-consciousness for sustainable development of the society.	Learn independently through self-reflection and evaluation of one's strengths and weaknesses	Understand theoretical models relating to health and change to healthy habits.
B.Sc. Psychology	UEPYB22	Positive psychology	To introduce the basic concepts of the growing approach of positive psychology and understand its applications in various domains.	Attain knowledge and understand the principles and concepts in the respective discipline	Define major concepts in psychology and explain the theoretical perspectives of the fields in Psychology. Ability to handle various life situations confidently and competently.	Define positive psychology and its related concepts.

B.Com (B&I)	UCBIG20	Principles of Management	Practice followed by business enterprises to develop skills among employees	Emulate positive social values and exercise leadership qualities and team work.	Engaging in Lifelong Learning, apply ethical principles and excel as a socially committed individual having empathy for the needs of the society	Aware of principles of organizing
B.B.A (Hospital Administration)	USHAC320	Skill Based Elective III: Wellness Management	To develop skills to improve personality and emotional intelligence.	Emulate positive social values and exercise leadership qualities and team work.	Contribute to the sustainable development to the society through professional and entrepreneurial skills.	Improve skills to manage conflict, crisis, events and responsible use of technology.
M.A. English	PCENA20	Chaucer and Elizabethan literature	The course aims at sensitizing students to human values as represented in literary texts from Chaucer and the Elizabethan period and compare and contrast them with the contemporary times	Integrate issues of social relevance in the field of study. Persist in life-long learning for personal and societal progress.	Demonstrate wide knowledge of literary periods and movements, intellectual, linguistic, religious, and artistic influences	Recall the historical, social and biographical Influence

M.A. English	PCENB20	Restoration Literature and Eighteenth century	The course aims at sensitizing students to human values as represented in literary texts from Restoration period and the Eighteenth century and compare and contrast them with the contemporary times	Integrate issues of social relevance in the field of study. Persist in life-long learning for personal and societal progress.	Demonstrate wide knowledge of literary periods and movements, intellectual, linguistic, religious, and artistic influences	Identify and analyze the writer's perspective, expression and their reflection of life representing the Restoration age Evaluate the traditional, religious, political, and aesthetic authority of this age
M.A. English	PCENC20	Classical literature of the world	The course aims at sensitizing students to human values as represented in literary texts acknowledged as classics from across the world and compare and contrast them with the contemporary times	Integrate issues of social relevance in the field of study. Persist in life-long learning for personal and societal progress.	Demonstrate wide knowledge of literary periods and movements, intellectual, linguistic, religious, and artistic influences	Evaluate human life and experience in texts and in reality
M.A. English	PCEND20	Indian Literature in English	The course aims at sensitizing students to human values as represented in literary texts from Indian writers and compare and contrast them with the contemporary times and ideas from other literatures.	Integrate issues of social relevance in the field of study. Persist in life-long learning for personal and societal progress.	Critically interpret emerging traditions of literature, culture and thought in the canon of new literatures	Analyse literary concepts and underlying aesthetics

M.A. English	PCENE20	American Literature	The course aims at sensitizing students to human values as represented in American Literature compare and contrast them with texts from other literatures	Integrate issues of social relevance in the field of study. Persist in life-long learning for personal and societal progress.	Critically interpret emerging traditions of literature, culture and thought in the canon of new literatures	Interpret American life and Culture against the background of History and Literary development Discuss American Literary artists, who were innovative in their outlook and literary temper. Identify key ideas, representative authors and works, significant historical or cultural events, and characteristic perspectives or attitudes expressed in the literature of different periods or regions
M.A. English	PCENH20	Women's Writing	The course aims at sensitizing students to human values as represented in literary texts by women writers and compare and contrast them with male writers.	Integrate issues of social relevance in the field of study. Persist in life-long learning for personal and societal progress.	Critically interpret emerging traditions of literature, culture and thought in the canon of new literatures	Explain diversity of women's experiences and their varied cultural moorings

M.A. English	PEENC20	Elective IIA: Postcolonial literature	The course aims at sensitizing students to human values as represented in literary texts from various nations that had been subjected to colonial rule.	Integrate issues of social relevance in the field of study. Persist in life-long learning for personal and societal progress.	Critically interpret emerging traditions of literature, culture and thought in the canon of new literatures	Trace the aspects of subjectivity, race, class and feminism in the Post colonial space Understand how literature shapes ideas about society and social identities in interaction with other discourses such as history and politics Analyse the history of Colonial rule, liberation movements in various nations and develop a critical thinking on the movement of Post colonialism
M.A. English	PEEND20	Elective II B: Literature of the marginalized	The course aims at sensitizing students to human values as represented in literary texts from various sections of society identified as marginalized.	Integrate issues of social relevance in the field of study. Persist in life-long learning for personal and societal progress.	Critically interpret emerging traditions of literature, culture and thought in the canon of new literatures	Discuss the concept of 'marginalized' and 'subaltern' from the socio-cultural and literary context Identify and analyze the themes of place, gender, class, caste, class and nationality in literature from subaltern perspective

M.A. English	PCENI20	Romantic and Victorian Literature	The course aims at sensitizing students to human values as represented in Romantic and Victorian Literature compare and contrast them with tother movements.	Integrate issues of social relevance in the field of study. Persist in life-long learning for personal and societal progress.	Demonstrate wide knowledge of literary periods and movements, intellectual, linguistic, religious, and artistic influences	Analyse and appreciate the interconnectedness of human life and nature as reflected in works written during the Romantic period.
M.A. English	PCENJ20	Shakespeare Studies	The course aims at sensitizing students to human values as represented in the plays and poems of Shakespeare from a critical and theoretical viewpoint. Contemporary understanding and interpretation of Shakespeare's works is the focus of the course.	Integrate issues of social relevance in the field of study. Persist in life-long learning for personal and societal progress.	Demonstrate wide knowledge of literary periods and movements, intellectual, linguistic, religious, and artistic influences	Discuss Elizabethan and Jacobean context in connection with the ideas of culture, history and politics of these periods
M.A. English	PCENK20	Contemporary Critical theory	Theoretical essays on Memory studies, Multiculturalism, Ecocriticism etc cater to a human values based approach to literature	Integrate issues of social relevance in the field of study. Persist in life-long learning for personal and societal progress.	Analyse and interpret Literature using traditional, modern, and contemporary theories and approaches	Discuss the role of historical context in the interpretation of literary texts

M.A. English	PCENM20	Literature of the Modern Age	The course aims at sensitizing students to human values as represented in literary texts from the Nineteenth Century focusing on the modern life, issues and values associated with the times.	Integrate issues of social relevance in the field of study. Persist in life-long learning for personal and societal progress.	Critically interpret emerging traditions of literature, culture and thought in the canon of new literatures	Realize the degeneration of morality and human values in the modern age.
M.A. English	PCENN20	Contemporary Writing	The course aims at sensitizing students to human values as represented in literary texts from the Twentieth and Twenty First Century focusing on the contemporary life, issues and values associated with the times	Integrate issues of social relevance in the field of study. Persist in life-long learning for personal and societal progress.	Critically interpret emerging traditions of literature, culture and thought in the canon of new literatures	Evaluate the contemporary literary schools /movements
M.A. English	PEENH20	Elective IV A: History of Ideas	The course aims at sensitizing students to human values as represented and debated in highly influential ideas down the ages.	Integrate issues of social relevance in the field of study. Persist in life-long learning for personal and societal progress.	Demonstrate wide knowledge of literary periods and movements, intellectual, linguistic, religious, and artistic influences	Identify the evolution of human thought and history of ideology Explain the germ and growth of different schools of philosophy, their episteme and ontological development Interpret social behavior and cultural practices of human beings according to each train of thought



						<p>focused on the course</p> <p>Evaluate the ethical attributes of the schools of philosophy</p> <p>Critique the attributes of other disciplines against the evolutionary changes in human thought</p>
M.A. English	PEENI20	Elective IV B: Cultural theory and Popular culture	The course aims at sensitizing students to human values as discussed in theoretical frameworks related to culture.	Integrate issues of social relevance in the field of study. Persist in life-long learning for personal and societal progress.	Critically interpret emerging traditions of literature, culture and thought in the canon of new literatures	<p>Recognize the role of Culture in human thought, expression and art</p> <p>Analyse literary and other related art forms in cultural perspective</p> <p>Evaluate literary text for their cultural value</p>
MSW	PCSWB20	Social Case Work	Dealing with individuals in solving problem using skills and techniques	Assimilate and apply principles and concept towards skill development and Employability	To enhance the individuals to help themselves with the scientific knowledge about the dynamics of problem and social issues.	Effectively understand the scope of Social Work
MSW	PCSWC20	Social Group Work	To understand human values to solve problems in the society	Persist in life-long learning for personal and societal progress.	It brings a change in attitudes and values of individual respective of their class, caste or gender	Acquire knowledge, skills and values in practicing social work with groups through Programme Planning

MSW	PCSWE20	Human Growth and Personality Development	Helps to equip the students of social work with understanding of human behaviour and personality development models, and to introduce the students to various field of psychology.	Assimilate and apply principles and concept towards skill development and Employability	To prepare the individual in understanding the human behaviour with the relation to society	Obtain an insight to factors contributing to development of personality
MSW	PNHRA22	Human Rights	To sensitize students for the application of Human Rights to the various practice domains of the different Profession	Persist in life-long learning for personal and societal progress.	It brings a change in attitudes and values of individual respective of their class, caste or gender	To strengthen the promotion and Protection of Human Rights around the globe.
MSW	PISWC20	Counselling	To develop a basic understanding of theories and skills in counselling.	Persist in life-long learning for personal and societal progress	To utilize the opportunity and of professionalism in the development process	Understand linkages of counselling and guidance in social work.
MSW	PSHRB20	Human Resource Management	Acquire knowledge on various functions of Human Resource Management	Persist in lifelong learning for personal and societal progress	It brings a change in attitudes and values of individual respective of their class, caste or gender	Acquire and build appropriate knowledge based on Human Resource Management
MSW	PSHRD20	Organizational Behaviour	To present a new perspective for management	Develop research skills through multi/inter/trans-disciplinary perspectives.	It brings a change in attitudes and values of individual respective of their class, caste or gender	Explore managerial and interpersonal skills in presenting a new perspective for management

MSW	PSMSB20	Introduction to psychiatry and Mental Health	To understand the characteristics of positive mental health.	Apply critical and scientific approaches to address problems and find out solutions	To utilize the available resources for the empowerment of vulnerable groups and critically analyze the problems, needs to create impact in society.	Acquire skills to identify understand and assess mental disorders.
MBA	PCBAB20	Organizational Behaviour	To give a comprehensive view on the behavior of individuals and groups within diverse organizations and on organizational structure and processes.	Integrate issues of social relevance in the field of study.	Students develop self-learning skills, and remain updated on contemporary management practices and can leverage their learning to provide solutions to business problems.	Ability to comprehend the leadership skills and effective communication systems.
MBA	PCBAI20	Human Resource Management	To Provide insights on the basics of Human Resource Management	Persist in life-long learning for personal and societal progress.	Students will understand the professional, legal, ethical, and environmental responsibilities and will be committed towards them	Acquire Knowledge on the perspectives of HRM
MBA	PCBAP20	International Business and Ethics	To assist the students to know about emotional intelligence, IQ, Coping strategies, conflict resolution, effective communication.	Persist in life-long learning for personal and societal progress.	Students will understand the professional, legal, ethical, and environmental responsibilities and will be committed towards them	Analyze the Ethical issues and challenges.

MBA	PIBAA20	Management Concepts in Thirukurral	To inhibit knowledge on Social Responsibility and Stress Management	Persist in life-long learning for personal and societal progress.	Students will understand the professional, legal, ethical, and environmental responsibilities and will be committed towards them	Understand the Concepts and Scope of Social Responsibility and Stress Management
MBA	PIBAC20	Industrial Safety and Pollutions Control	To Ascertain the Procedures of Environmental Safety	Persist in life-long learning for personal and societal progress.	Students will understand the professional, legal, ethical, and environmental responsibilities and will be committed towards them	Attain knowledge in the requisites of legal provisions towards Safety
MBA	PIBAL20	Work Life Balance and Emotional Intelligence	To assist the students to know about emotional intelligence, IQ, Coping strategies, conflict resolution, effective communication.	Persist in life-long learning for personal and societal progress.	Students will understand the professional, legal, ethical, and environmental responsibilities and will be committed towards them	Ability to comprehend Emotional Intelligence with its concepts and nature.
M.Sc. Biochemistry	PCBCA20	Biomolecules	To understand the salient features of biomolecules in the organization of life.	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Attain idea on the structural and biological aspects of proteins

M.Sc. Biochemistry	PCBCB20	Human Physiology and Nutrition	To study about the Physiological system of human body and Nutrients with their deficiencies.	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Assess the activities of organs for maximum efficiency
M.Sc. Biochemistry	PCBCC20	Cell Biology	To understand the Cell, Cell organelle's structure, function and metabolism	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Discuss about the various sub-cellular components of cells and its functions in the biological system
M.Sc. Biochemistry	PCBCG20	Practical I: Main Practical-I	To help students to expertise in the Biomolecules, Cell Dynamics and biochemical techniques.	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Explain the isolation of biomolecules from biological samples
M.Sc. Biochemistry	PCBCH20	Practical II: Main Practical-II	To learn about the analytical techniques and enzymology experiments.	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Identify and purify biomolecules in a mixture by chromatographic technique
M.Sc. Biochemistry	PEBCA20	Elective IA: Biophysical Chemistry	To make the students to understand the concepts of bioenergetics and techniques.	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Define and recognize covalent bonding between atoms in molecules. Classify organic molecules by their functional groups
M.Sc. Biochemistry	PEBCB20	Elective IB: Pharmaceutical Biochemistry	To make the students aware of uses and abuse of drugs.	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Outline the basic scientific concepts related to mechanism of drug action Assess the drug tolerance and the factors that modify the effect of drugs

M.Sc. Biochemistry	PCBCD20	Analytical Biochemistry	To understand the principles and applications of analytical techniques.	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Pursue knowledge about centrifugation and radioactivity and critically assess advances with in the field
M.Sc. Biochemistry	PCBCE20	Enzymology	To learn the methodology involved in assessing the enzyme activity and mechanism of enzyme action.	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Explain various industrial and clinical applications of enzymes as a catalyst in industries and also as a therapeutic aid
M.Sc. Biochemistry	PCBCF20	Intermediary Metabolism	To make the students to understand the reactions catalyzed by different enzymes and their metabolic pathways.	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Restate in own words how reduced electron carriers are used to generate ATP via Electron Transport System in Mitochondria
M.Sc. Biochemistry	PEBCC20	Elective IIA: Ecology, Evolution and Developmental Biology	The course enables the students to understand and analyze the role of ecological and evolutionary modifications in the development of organisms and their survival.	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Explain the insight on morphogenesis and organogenesis in plants Schematize pedigree analysis and genetic mapping
M.Sc. Biochemistry	PEBCD20	Elective II B: Toxicology	The course gives a detailed understanding and identification of toxic substances, dose-response, tests	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Outline the scope and factors influencing toxicology

			conducted and its impact on cellular activities.			
M.Sc. Biochemistry	PCBCI20	Advanced Endocrinology	The course describes in detail about the role of endocrine glands, their secretion, its metabolic effect on target cells involving various signaling pathways and signal chain proteins.	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Examine the symptoms of the patients and relate it to hormones
M.Sc. Biochemistry	PCBCJ20	Advanced Immunology	To help the students to understand the components of immune system and it's functioning.	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Discuss the reason for different vaccination
M.Sc. Biochemistry	PCBCK20	Advanced Biotechnology	To learn how to apply the knowledge of genetic engineering in problem solving and in practice.	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Make use of the various steps in the development of a biotechnology derived products
M.Sc. Biochemistry	PCBCN20	Practical II: Main Practical III	The course is aimed to enable the student interpret hormonal imbalance and clinical conditions and also to provide in-depth practical knowledge and skill in performing immune-techniques and cell culture techniques.	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Analyse the prevalence and impact of endocrine hormone in regulating health



M.Sc. Biochemistry	PCBCO20	Practical II: Main Practical -IV	To help students to expertise in the molecular biology and clinical Biochemistry techniques.	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Utilize practical knowledge and skill for diagnosing various diseases using biochemical analysis in blood specimen
M.Sc. Biochemistry	PEBCE20	Elective III A: Microbiology	To understand the importance of applications of microorganisms.	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Identify the various infectious diseases, its causative agents and antimicrobial drugs
M.Sc. Biochemistry	PEBCF20	Elective III B: Research Methodology	To addresses the issues inherent in selecting a research problem and discuss the techniques and tools to be employed in completing a research project	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Practice the concepts of animal studies and CPCSEA guidelines in research
M.Sc. Biochemistry	PCBCL20	Molecular Biology	The course will enable the student to learn the molecular events occurring in gene and its application in field of biomedical and genetic research.	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Describe the blueprint of life and its functions
M.Sc. Biochemistry	PCBCM20	Advanced Clinical Biochemistry	To gain concepts of assessing the human physiology using biological fluid.	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Apply the process of collection, preservation and storage of blood

M.Sc. Biochemistry	PEBCG20	Elective IVA: Plant Biochemistry	To help the students to understand the plant metabolites and their application in the field of medicine.	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Describe the processes of germination and plant growth
M.Sc. Biochemistry	PEBCH20	Elective IV B: Herbal Therapy	To help students to understand the concepts in pharmacognosy and the role of medicinal plants.	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Explain the classification of medicinal plants
M.Sc. Biochemistry	PIBCA20	IEC: Organic Farming	To help students to understand the concepts and importance of organic farming and use it as a source of income generation	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Use the organic methods for plant cultivation
M.Sc. Biochemistry	PIBCB20	IEC: Food Preservation	To enable students to understand the concepts of food preservation and methods involved	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Find the methods of food preservation
M.Sc. Biochemistry	PIBCC20	IEC: Horticulture	To emphasis on the significance and concepts of horticulture and the techniques involved.	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Identify the role of gardening in common places
M.Sc. Biochemistry	PIBCD20	IEC: Cancer Biology	To help students to understand the biology, diagnosis and treatment involved in cancer.	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Asses the contribution of environmental and genetic factors to cancer causation

M.Sc. Biochemistry	PIBCE20	IEC: Nanobiotechnology	The course aims to provide an interdisciplinary knowledge on Nano materials and their applications in biosciences.	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Discuss the Nanoparticle drug base delivery systems
M.Sc. Biochemistry	PIBCF20	IEC: Stem cell Technology	The course gives in depth knowledge on stem cell biology, regulation of stem cell differentiation, tools to study and its utilization in treating various disorders	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Analyze the importance of ethics in stem cell and gene therapy
M.Sc. Biochemistry	PIBCG20	IEC: Psychology	The course is aimed to enhance the psychological skills for the students to acquire factual knowledge and ability to conceptualize and apply in their life.	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Apply the principles of psychology in day-to-day life for a better understanding of oneself and others.
M.Sc. Biochemistry	PIBCH20	IEC: Entrepreneurial Biochemistry	The course provides detailed knowledge on ideas, opportunities and components necessary for bio-entrepreneurship.	Persist in life-long learning for personal and societal progress	Develop research skills and practice life science in an ethical and responsible manner	Describe the dynamic role of entrepreneurship and small business.

M.Sc. Electronic Media	PCEMA20	Mass Communication and Journalism	To introduce the broad field of mass communication and journalism to students including the models, theories and ethics in the field of media	Attain an in-depth knowledge in the respective domains augmented Through self-learning.	To obtain wide Knowledge in the area of Electronic Media Production and demonstrate Clear and coherent communication skills.	Review the Basics of Communication and Mass Culture.
M.Sc. Electronic Media	PEEMB20	Elective II B – Broadcast Journalism	To learn in-depth about the various fields of broadcast journalism and the best practices	Integrate issues of social relevance in the field of study.	To become ethically committed media professionals and entrepreneurs by adhering to Human values, the Indian and the Global cultures.	Analysing the ethical codes and ethical standards of journalism in the contemporary media.
M.Sc. Electronic Media	PCEMH20	Media Analysis Techniques	To introduce the basic media analysis techniques with practice applications in order to develop a critical perspective of media texts.	Apply critical and scientific approaches to address problems and find solutions.	To Assimilate the critical and scientific approaches to address the Research problems and Find solutions.	Examine the Concept of Sociological and Discourse Analysis.
M.Sc. Electronic Media	PEEMC20	Elective II A: Inter-Cultural Communication	To initiate students to the challenges in global communication in the age of cross-culture communication	Develop research skills through multi/inter/trans-disciplinary perspectives.	To become ethically committed media professionals and entrepreneurs by adhering to Human values, the Indian and the Global cultures.	Evaluating the Relationship Between Intercultural Communications in News Media Production.

M.Sc. Electronic Media	PIEMB20	Independent Elective Electronic Journalism	To provide the insight knowledge about the electronic news production and Produce the competent journalists and news producers for the current information world.	Develop research skills through multi/inter/trans-disciplinary perspectives.	To become ethically committed media professionals and entrepreneurs by adhering to Human values, the Indian and the Global cultures.	Compiling the technologies used for electronic journalism
M.Sc. Electronic Media	PCEMM20	Public Relations & Corporate Communication	To initiate students to the field of Public Relations and Corporate Communication by giving them a background, trends and techniques in PR	Persist in life-long learning for personal and societal progress.	To become ethically committed media professionals and entrepreneurs by adhering to Human values, the Indian and the Global cultures.	Analysing the role of PR in press and other media relations.
M.Sc. Electronic Media	PIEMC20	Independent Elective - Women And Advertising	To provide the basic understanding about the role of women in the field of advertisement and to develop career opportunities.	Persist in life-long learning for personal and societal progress.	To acquire primary Research skills, and understand the importance of innovations, Incubation and entrepreneurship.	Compiling the notable emerging women leaders in Advertising

M.Sc. Electronic Media	PCEMP20	Electronic Media Management	To offer an in-depth understanding of the working of media organisations and the function and ethics of media professionals in electronic media.	Apply critical and scientific approaches to address problems and find solutions.	To acquire primary Research skills, and understand the importance of innovations, Incubation and entrepreneurship.	Evaluating the Marketing strategies of Media Management.
M.Sc. Electronic Media	PCEMQ20	Development Communication	To enable students to understand the use of media in furthering development of society and the contributions of media professionals in democracy	Develop research skills through multi/inter/trans-disciplinary perspectives.	To become ethically committed media professionals and entrepreneurs by adhering to Human values, the Indian and the Global cultures.	Evaluating the role communication and empowerment strategies for development communication.
M.Sc. Electronic Media	PCEMS20	Practical VII - Research Project	To put to practice the methods of research by undertaking a study in a relevant field of media	Develop research skills through multi/inter/trans-disciplinary perspectives.	To Assimilate the critical and scientific approaches to address the Research problems and Find solutions.	Constructing the desired conclusion and writing the Research Report.
M.Sc. Electronic Media	PEEMH20	Elective IVB: Women and Media	To enlighten students on the role of media in empowering women in society and the contributions of women in growing the media field	Persist in life-long learning for personal and societal progress.	To acquire primary Research skills, and understand the importance of innovations, Incubation and entrepreneurship.	Acquiring Knowledge about Development of women in Media.

M.Sc. Microbiology	PCMBM20	Bioethics and Biosafety	The course is designed to educate the learners on Biosafety concerns at the level of individuals, institution, society, region, country and the world.	Persist in life-long learning for personal and societal progress.	Compete in state/national level competitive exams to pursue higher study with an understanding that education is life-long process for personal and societal progress.	Outline the principles of bioethics and explain the biosafety concerns with safeguard measures. Compile the BSA statement for the industrial production of pharmaceuticals. Adapt the WHO quality standards in food process technology.
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*S. Parvathi*

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**Controller of Examinations,**  
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*Sr. Jaya Sankar*

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 Vellore District, Tamil Nadu.

**GENERAL ENGLISH: PAPER – I**

<b>Year:</b> 2020	<b>Code:</b> UENGA20	<b>Title:</b> General English I	<b>Course Type:</b> Theory	<b>Course Category:</b> Language	<b>H/W:</b> 6	<b>Credits:</b> 3	<b>Marks:</b> 100
<b>Sem: I</b>							

**COURSE OUTCOMES (COs):**

CO1: Recognize the elements of English language at the levels of vocabulary, spelling, grammar and pronunciation

CO2: Rephrase ideas into sentences in both speech and writing with accuracy, clarity and fluency

CO 3: Use the LSRW (listening, speaking, reading & writing) skills in English language with ease in academic and real-life situations.

CO4: Explain one's ideas and opinions on any given subject, clearly and effectively

CO5: Discern (figure out) effective ways of communication with etiquette

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	H	M	M	M	M	M
CO2	H	H	M	M	M	M
CO3	H	H	H	H	M	M
CO4	H	H	M	H	M	M
CO5	H	H	M	M	M	M

**H - High – (3), M - Moderate (2), L - Low (1)**

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	H	M	M	M	M	M
CO2	H	H	M	M	M	M
CO3	H	H	H	H	M	M
CO4	H	H	M	H	M	M
CO5	H	H	M	M	M	M

**Unit 1****(18 Hours)**

1.1. Poetry - The Piper	K3
1.2. Fairy Tale –The Ugly Duckling	K2
1.3. Short Story - Panchatantra Tales- Book III- Crows and the Owls- 1. How the Birds Picked a King	K2
1.4. How the Rabbit Fooled the Elephant	K2



1.5. From Raymond Murphy's Essential English Grammar. Grammar Units 1-11	K1, K2
1.6. Composition - Jumbled Sentences - Writing Skills	K3
<b>Unit 2</b>	<b>(18 Hours)</b>
2.1. Poetry - The Donkey	K3
2.2. Poetry - The Kitten and Falling Leaves	K3
2.3. Fairy Tale - The Country Mouse and the Town Mouse	K2
2.4. Short Story - The Gift of the Magi	K2
2.5. Grammar Units 12-22	K1, K2
2.6. Composition - Writing Advertisement - Writing Skills	K3
<b>Unit 3</b>	<b>(18 Hours)</b>
3.1. Poetry-The Owl and the Pussy Cat	K3
3.2. Fairy Tale -The Leap-Frog	K2
3.3. Short Story- Arabian Nights The Seven Voyages – Third Voyage	K3
3.4. Of Sindbad the Sailor - Fourth Voyage	K3
3.5. Grammar Units 23-33	K1, K2
3.6. Composition - Precise Writing - Writing Skills	K3
<b>Unit 4</b>	<b>(18 Hours)</b>
4.1. Poetry -The Brook	K4
4.2. Fairy Tale -Rumpelstiltskin	K2
4.3. The Elves and the Shoemaker	K2
4.4. Short Story -The Golden Deer	K2
4.5. Grammar Units 34-44	K1,K2
4.6. Composition – Letter Writing- Informal Letter –Writing Skills	K3
<b>Unit 5 – Fiction- The Tales From Shakespeare</b>	<b>(18 Hours)</b>
5.1. The Tempest	K4
5.2. The Winter's Tale	K4
5.3. The Merchant of Venice	K4
5.4. King Lear	K4
5.5. Othello	K4
5.6. Grammar Units 45-57 Composition- Story Writing-own imagination	K1, K2 K4

### Text Books

1. *Darts: A Voyage of Learning English* by the Department of English, Auxilium College, Vellore. Bloomsbury Publications: New Delhi, 2017.
2. Murphy, Raymond. *Essential English Grammar*, Cambridge University Press. Ed. 2. New Delhi.

a. 2017

**Reference Books**

Charles & Mary Lamb, *Tales from Shakespeare*, New Delhi, 2018.

**OER (Open educational resources):**

1. <https://open.umn.edu/opentextbooks>
2. <https://www.saylor.org/>
3. <https://textbooks.opensuny.org/browse-by-subject/>
4. [www.bloomsbury.com](http://www.bloomsbury.com)

## UENGB17 - GENERAL ENGLISH: PAPER –II

<b>Year: 2020</b> <b>Sem II</b>	<b>Course Code:</b> UENGB20	<b>Title of the Course:</b> General English – Paper II	<b>Course Type:</b> Theory	<b>Course Category:</b> Language	<b>H/W:</b> 6	<b>Credits:</b> 3	<b>Marks:</b> 100
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### COURSE OUTCOMES (COs):

CO1: Relate with the time-tested values of Indian culture and assimilate communicative skills through the reading of texts by Indian English writers

CO2: Outline the values and ideas from the prescribed texts in self-made sentences with accuracy, clarity and fluency

CO 3: Use the LSRW (listening, speaking, reading & writing) skills in English language with ease in academic and real-life situations.

CO4: Explain one's ideas and opinions on any given subject, clearly and effectively

CO5: Figure out effective ways to make a point and describe one's standpoint

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
<b>CO1</b>	H	H	M	M	M	M
<b>CO2</b>	H	H	M	M	M	M
<b>CO3</b>	H	H	H	M	M	M
<b>CO4</b>	H	H	H	H	M	M
<b>CO5</b>	H	H	H	H	H	M

**H - High – (3), M - Moderate (3), L - Low (1)**

	PO1	PO2	PO3	PO4	PO5	PO6
<b>CO1</b>	H	H	M	M	M	M
<b>CO2</b>	H	H	M	M	M	M
<b>CO3</b>	H	H	H	M	M	M
<b>CO4</b>	H	H	H	H	M	M
<b>CO5</b>	H	H	H	H	H	M

### Unit 1

( 18 Hours)

1.1. Poetry-Where the Mind is without Fear

K3

1.2. Prose - Science and Religion

K4

1.3. Short Story -The Tree Speaks	K3
1.4. Autobiography - Shyness My Shield	K3
1.5. Grammar Units 58-70	K2, K3
1.6. Composition: Email Writing – Writing Skills	K3

**Unit 2** **( 18 Hours)**

2.1. Poetry - Peace	K3
2.2. Prose - Dynamic Life	K4
2.3. Short Story - Father and Son	K3
2.4. Autobiography - Wings of Fire	K3
2.5. Grammar Units 71-82	K2, K3
2.6. Composition: Dialogue Writing –Writing Skills	K4

**Unit 3** **(18 Hours)**

3.1. Poetry- Freedom	K3
3.2. Prose - The India of My Dreams	K4
3.3. Short Story – Sparrows	K2
3.4. Biography - Bankim Chandra Chattopadhyaya	K4
3.5. Grammar Units 83-95	K2, K3
3.6. Composition: Report Writing – Writing Skills	K3

**Unit 4** **(18 Hours)**

4.1. Poetry - A Scratch	K3
4.2. Prose - How Economic Growth Has Become Anti-Life	K4
4.3. Short Story - Eight Rupees	K2
4.4. Biography – The Saint of the Gutters	K3
4.5. Grammar Units 96-107	K2, K3
4.6. Composition - Preparing Posters	K3

**Unit 5** **(18 Hours)**

5.1. Poetry- On Killing a Tree	K3
5.2. Prose- Future of Our Past: Towards a Critique of Globalization and Culture Industry	K4
5.3. Short Story-The Guest	K2
5.4. Biography- Daring to Dream	K3
5.5. Grammar Units 108-114	K2, K3
5.6. Composition: Formal Letter Writing -Writing Skills	K2, K3

**Text Books**

1. *Darts: A Voyage of Learning English* by the Department of English, Auxilium College, Vellore.

- a. Bloomsbury, New Delhi, 2017.
2. Murphy, Raymond. *Essential English Grammar*, Cambridge University Press. Ed. 2. New  
a. Delhi. 2017.

### **Reference Books**

1. Hall, Donald and Sven Birkerts. *Writing Well*. New York: Harper Collins Publishers, 1991.
2. Kahn, John Ellison (Ed.) *Reader's Digest: How to Write and Speak Better*. New York:  
Reader's  
a. Digest, 1993.

### **OER (Open educational resources):**

1. [www.bloomsbury.com](http://www.bloomsbury.com)
2. Open Textbook Library
3. Saylor.org
4. <https://textbooks.opensuny.org/browse-by-subject/>

### ENGLISH PAPER - III

<b>Year: 2020</b> <b>Sem-III</b>	<b>Course Code:</b> UENGC20	<b>Title :</b> English Paper - III	<b>Course Type:</b> Theory	<b>Course Category:</b> Language	<b>H/W:</b> 5	<b>Credits:</b> 3	<b>Marks:</b> 100
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Course Outcomes(CO):

1. Evolve newer ways to approach language-learning goals.
2. Enable students to be aware of the contemporary social issues of national and global importance.
3. Improve speaking ability both in terms of fluency and comprehensibility.
4. Paraphrase the online sources effectively and accurately.
5. Develop comprehensive abilities as to read, write and speak.

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
<b>CO1</b>	<b>H</b>	H	H	H	M	M
<b>CO2</b>	H	<b>H</b>	H	H	M	M
<b>CO3</b>	H	H	<b>H</b>	H	H	M
<b>CO4</b>	H	H	H	<b>H</b>	H	M
<b>CO5</b>	H	H	H	H	<b>H</b>	H

**H - High – (3), M - Moderate (3), L - Low (1)**

	PO1	PO2	PO3	PO4	PO5	PO6
<b>CO1</b>	<b>H</b>	H	H	H	M	M
<b>CO2</b>	H	<b>H</b>	H	H	M	M
<b>CO3</b>	H	H	<b>H</b>	H	H	M
<b>CO4</b>	H	H	H	<b>H</b>	H	M
<b>CO5</b>	H	H	H	H	<b>H</b>	H

<b>Unit 1</b>	<b>(18 Hours)</b>
1.1. Life and Liberty	K3
1.2. Dignity and Security	K3
1.3. Grammar Units 1 – 6 (Intermediate English Grammar)	K2, K3
1.4. Grammar Units 7 – 12	K2, K3
1.5. Skill Development: News Reading - Reading Skills	K2
1.6. Composition: Prose Comprehension - Writing Skills	K4
<b>Unit 2</b>	<b>(18 Hours)</b>
2.1. Children's Rights	K3
2.2. Living on the Edge	K3
2.3. Grammar Units 13 - 20 (Intermediate English Grammar)	K2, K3
2.4. Grammar Units 21 -25	K2, K3
2.5. Skill development: Vocabulary (Analogies) -Writing Skills	K5
2.6. Composition: Expansion of an Idea - Writing Skills	K5
<b>Unit 3</b>	<b>(18 Hours)</b>
3.1. Science and Technology can shape our Future	K3
3.2. Make peace, Not War	K3
3.3. Grammar Units 26-31 (Intermediate English Grammar)	K2, K3
3.4. Grammar Units 32-38	K2, K3
3.5. Skill development: Listening TED Talks- Listening Skills	K3
3.6. Composition: Writing Instructions – Writing Skills	K3
<b>Unit 4 (18 Hours)</b>	
4.1. Defenders of Peace	K3
4.2. Grammar Units 39-42	K2, K3
4.3. Grammar Units 43-47	K2, K3
4.4. Grammar Units 48-51	K2, K3
4.5. Skill development: Group discussion - Speaking Skills	K5
4.6. Composition: Correction of sentences - Writing Skills	K4
<b>Unit 5</b>	<b>(18Hours) 5.1.</b>
Violence and Non-Violence	K3
5.2. Grammar Units 52 –56	K2, K3
5.3. Grammar Units 57-62	K2, K3
5.4. Grammar Units 63-67	K2, K3,
5.5. Composition: Check List-Writing Skills	K4
5.6. Skill development: Writing minutes –Writing Skills	K4

### **Text Books**

1. Malini Seshadri & Helen Thimmayya, *A Window to your World*. Orient Black Swan, Hyderabad. 2018.
2. Murphy, Raymond. *Intermediate English Grammar*, Cambridge University Press. Ed. 2. 1994.

### **Reference Books**

1. Millward, Celia. *Handbook for Writers, 2<sup>nd</sup> Edition*. New York: Holt, Rinehart & Winston,
2. 1980.
3. Rao, M. S. *Soft Skills - Enhancing Employability: Connecting Campus with Corporate I*. K International Publishing House: New Delhi. 2011.
4. Reid, Ian. *The Short Story: The Critical Idiom Series*. London: Methuen & Co, 1986.
5. Saxena, Sunil. *Headline Writing*. New Delhi: Sage Publications, 2006.
6. Scott, Bill. *The Skills of Communicating*. Mumbai: Jaico Publishing House, June 1995.

### **OER (Open educational resources):**

1. [www.bloomsbury.com](http://www.bloomsbury.com)
2. Open Textbook Library
3. Saylor.org
4. <https://textbooks.opensuny.org/browse-by-subject/>



## GENERAL ENGLISH- PAPER – IV

<b>Year: 2020</b> <b>Sem –IV</b>	<b>Course Code:</b> UENGD20	<b>Title of the Course:</b> General English –IV	<b>Course Type:</b> Theory	<b>Course Category:</b> Language	<b>H/W:</b> 6	<b>Credits:</b> 3	<b>Marks:</b> 100
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Course Outcomes(CO):

1. Relate with real life situations by reading the literary text from the past.
2. Respect and protect the differences among nations and practice positive social values.
3. Instill the ability to analyze texts critically and practice writing through assignments.
4. Develop knowledge about the system of Governance and its regulations.
5. Create a sense of belonging towards the community and nation.

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
<b>CO1</b>	H	H	H	M	M	M
<b>CO2</b>	H	H	H	H	M	M
<b>CO3</b>	H	H	H	H	H	M
<b>CO4</b>	H	H	H	H	H	M
<b>CO5</b>	H	H	H	H	H	H

**H - High – (3), M - Moderate (3), L - Low (1)**

	PO1	PO2	PO3	PO4	PO5	PO6
<b>CO1</b>	H	H	H	M	M	M
<b>CO2</b>	H	H	H	H	M	M
<b>CO3</b>	H	H	H	H	H	M
<b>CO4</b>	H	H	H	H	H	M
<b>CO5</b>	H	H	H	H	H	H

### Unit 1

(18Hours)

- |   |        |
|---|--------|
| 1.1. Women's Rights   | K3     |
| 1.2. Rights of the elderly  | K3     |
| 1.3. Grammar Units 68 – 75  | K2, K3 |
| 1.4. Grammar Units 76 – 82  | K2, K3 |
| 1.5. Skill development: Listening comprehension and answering<br>- Listening Skills | K3     |
| 1.6. Composition: Essay writing on current Topics<br>–Writing Skills                | K5     |

### Unit 2

(18 Hours)

- |                               |        |
|-------------------------------|--------|
| 2.1. Being Wise, not wasteful | K3     |
| 2.2. Grammar Units 83 – 86    | K2, K3 |
| 2.3. Grammar Units 87 – 91    | K2, K3 |
| Grammar Units 92 – 96         | K2, K3 |

2.4. Skill development: Interview skills -Speaking Skills	K4
2.5. Composition: Curriculum Vitae and Job application - Writing Skills	K4

**Unit 3** **(18 Hours)**

3.1. The Role of the Government	K3
3.2. Strengthening the Roots	K3
3.3. Grammar Units 97 – 100	K2, K3
3.4. Grammar Units 101 – 107	K2, K3
3.5. Skill Development: Telephone Conversations - Speaking Skills	K3
3.6. Composition: Note making - Writing Skills	K5

**Unit 4** **(18 Hours)**

4.1. Religious Harmony	K3
4.2. Grammar Units 108-112	K2, K3
4.3. Grammar Units 113-115	K2, K3
4.4. Grammar Units 116-119	K2, K3
4.5. Skill development: Interpretation of Graphs (Pie Chart, Flow chart) - Writing Skills	K5
4.6. Composition: Writing Recommendations - Writing Skills	K4

**Unit 5** **(18 Hours)**

5.1. Peace + Balance = Harmony	K3
5.2. Grammar Units 120-125	K2, K3
5.3. Grammar Units 126-130	K2, K3
5.4. Grammar Units 131-136	K2, K3
5.5. Skill Development: Conducting Mock Interview -Speaking Skills	K3
5.6. Composition: Writing Book Review - Writing Skills	K5

**Text Books**

1. Malini Seshadri & Helen Thimmayya. *A Window to your World*. Orient Black Swan. Hyderabad 2018.
2. Murphy, Raymond. *Intermediate English Grammar*, Cambridge University Press. Ed. 2. New Delhi. 2014.

**Reference Books**

1. Millward, Celia. *Handbook for Writers, 2<sup>nd</sup> Edition*. New York: Holt, Rinehart & Winston, 1980.

2. Rao, M. S. *Soft Skills - Enhancing Employability: Connecting Campus with Corporate I.* K International Publishing House: New Delhi. 2011.
3. Reid, Ian. *The Short Story: The Critical Idiom Series.* London: Methuen & Co, 1986.
4. Saxena, Sunil. *Headline Writing.* New Delhi: Sage Publications, 2006.
5. Scott, Bill. *The Skills of Communicating.* Mumbai: Jaico Publishing House, June 1995.

**OER (Open educational resources):**

1. [www.bloomsbury.com](http://www.bloomsbury.com)
  2. Open Textbook Library
  3. Saylor.org
  4. <https://textbooks.opensuny.org/browse-by-subject/>
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## UCENF20 - AMERICAN LITERATURE

<b>Year: II</b>	<b>Course Code:</b> UCENF20	<b>Title of the Course:</b> American Literature	<b>Course Type:</b> Theory	<b>Course Category:</b> Main	<b>H/W</b> 5	<b>Credits</b> 5	<b>Marks</b> 100
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### Course Outcomes (CO)

On Completion of the Course the Learners will be able to:

1. Identify characteristic forms or styles of expression during different historical periods in different regions.
2. Discuss the issues, conflicts, preoccupations and themes of various literary texts.
3. Examine the historical, cultural, rhetorical contexts in which the literary texts were written.
4. Analyze literary works as expressions of individual or communal values within the social, political, cultural or religious contexts of different literary periods.
5. Write clear, focused and coherent essays about literature for an academic audience using standard English conventions of grammar and style.

CO/PSO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	H	M	M
CO2	H	H	H	H	H	M
CO3	H	H	H	H	H	M
CO4	H	H	H	H	H	M
CO5	H	H	H	H	H	H

**H - High – (3), M - Moderate (2), L - Low (1)**

CO/PO	PO					
	1	2	3	4	5	6
CO1	H	H	H	H	M	M
CO2	H	H	H	H	H	M
CO3	H	H	H	H	H	M
CO4	H	H	H	H	H	M
CO5	H	H	H	H	H	H

**Unit I: Poetry – Detailed****(15 Hours)**

- |                      |                            |
|----------------------|----------------------------|
| 1.1. Walt Whitman    | A Noiseless Patient Spider |
| 1.2. Robert Frost    | Birches                    |
| 1.3. Carl Sandburg   | Chicago                    |
| 1.4. R. W. Emerson   | Hamatreya                  |
| 1.5. Maya Angelou    | Still I Rise               |
| 1.6. Edgar Allan Poe | A Dream within a Dream     |

**Unit II: Poetry – Non-Detailed****(10 Hours)**

- |                      |   |
|----------------------|---|
| 2.1. Amy Lowell      | Patterns                                |
| 2.2. H.W. Longfellow | A Gleam of Sunshine                     |
| 2.3. Emily Dickinson | After Great pain a formal feeling comes |
| 2.4. Langston Hughes | The Negro Mother                        |
| 2.5. E.E. Cummings   | Somewhere I have never travelled        |
| 2.6. Allen Ginsberg  | Howl                                    |

**Unit III: Prose – Detailed****(15 Hours)**

- |                       |                                    |
|-----------------------|------------------------------------|
| 3.1. William Faulkner | Nobel Prize Acceptance Speech      |
| 3.2. Jack London      | What life means to me              |
| 3.3. Thoreau          | Where I Lived and What I lived For |

**Prose: Non- Detailed**

- |                         |                |
|-------------------------|----------------|
| 3.4. Martin Luther King | I have a Dream |
| 3.5. R.W. Emerson       | Self-Reliance  |
| 3.6. R.W. Emerson       | Self-Reliance  |

**Unit IV: Drama****(20 Hours)****Detailed**

- |                           |                     |
|---------------------------|---------------------|
| 4.1. – 4.3. Arthur Miller | Death of a Salesman |
|---------------------------|---------------------|

**Non- Detailed**

- |                                |                     |
|--------------------------------|---------------------|
| 4.4. – 4.6. Tennessee Williams | The Glass Menagerie |
|--------------------------------|---------------------|

**Unit V: Fiction Short Story:****(15 Hours)**

- |                      |                                |
|----------------------|--------------------------------|
| 5.1. J.D. Salinger   | Franny                         |
| 5.2. Edgar Allan Poe | The Fall of the House of Usher |
| 5.3. John Steinbeck  | The Chrysanthemums             |

**Novel:**

- |                      |                              |
|----------------------|------------------------------|
| 5.4. Mark Twain      | The Adventures of Tom Sawyer |
| 5.5. Herman Melville | Moby Dick                    |
| 5.6. Harper Lee      | To Kill a Mocking Bird       |

**Books for Study and References:**

Lee, Harper. *To kill a Mocking Bird*: - Warner Books Edition- 1982  
Melville, Herman. *Moby Dick*: Tom Doherty Associates, 1996

Miller, Arthur. *All My Sons*- Ed: Harold Bloom: Viva Books Pvt. Ltd. Chennai, 2007

Poe, Edgar Allan. : *The Fall of the House of Usher and other Writing*: Penguin classics 2003

Whitman, Walt. *Leaves of Grass*: Oxford World's Classics, 1998(OUP)

Oliver. S. Egbert- *An Anthology of American Literature 1890- 1965*

## UCENG20 - NEO - CLASSICAL LITERATURE

<b>Year:</b> II	<b>Course Code:</b> UCENG20	<b>Title of the Course:</b> Neo-Classical Literature	<b>Course Type:</b> Theory	<b>Course Category:</b> Main	<b>H/W</b> 5	<b>Credits</b> 5	<b>Marks</b> 100
<b>Sem:</b> IV							

### Course Outcomes (CO)

On Completion of the Course the Learners will be able to:

1. Recall the historical, social and biographical details of the Era
2. Interpret the contextual structure of the literary texts of the Era
3. Apply Critical Perspectives on the Literary Works
4. Appreciate the contribution of the Texts and explore the social, historical, artistic and literary influences of the period.
5. Analyse insights to the various literary genres of the Era

CO/PSO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	M	M	M

CO2	H	H	H	H	M	M
CO3	H	H	H	H	M	M
CO4	H	H	H	H	H	M
CO5	H	H	H	H	H	M

**H - High – (3), M - Moderate (2), L - Low (1)**

CO/PO	PO					
	1	2	3	4	5	6
CO1	H	H	H	M	M	M
CO2	H	H	H	H	M	M
CO3	H	H	H	H	M	M
CO4	H	H	H	H	H	M
CO5	H	H	H	H	H	M

### Unit I: Introduction & Detailed Poetry

**K1 – K4**

**(18hours)**

- 1.1 Introduction to Neo-Classical Era
- 1.2 Puritanism
- 1.3 The Age of Queen Anne

- 1.4 John Milton (1608-1674) - Paradise Lost, Book I – Lines 1 to 155  
 1.5 Alexander Pope (1688-1744) - The Rape of the Lock – Canto III – Lines 75 to 178  
 1.6 William Blake (1757-1827) - Songs of Innocence: A Dream  
 Songs of Experience: A Poison Tree

**Unit II: Poetry (Non-Detailed) K2-K4 (18 hours)**

- 2.1 Poetic Schools of the Era  
 2.2 Restoration England  
 2.3. Abraham Cowley (1618-1667) - Against Hope  
 2.4. Henry Vaughan (1621-1695) - The Retreat  
 2.5. Andrew Marvell (1621-1678) - On A Drop of Dew  
 2.6. Thomas Gray (1716-1771) - Ode to Adversity

**Unit III: Prose (Detailed & Non-detail) K1-K4 (18 hours)**

- 3.1 Introduction to Neo-Classical Prose  
 3.2 Coffee House Life in London  
 3.3 Jonathan Swift (1667-1745) The Battle of the Books  
 (Whoever examines...sweetness and Light)  
 3.4 Addison and Steele (1672-1719) - The Coverley Papers: Sir Roger at Church  
 3.5 Addison and Steele (1672-1719) - The Coverley Papers: Sir Roger in London  
 3.6 Dr. Johnson (1709-1784) (**Non-detail**) Life of Milton (The life of Milton...gentlemen of Gray's Inn)

**Unit IV: Drama (Detailed & Non-detail) K1-K4 (18 hours)**

- 4.1 Introduction to Neo-Classical Drama  
 4.2 Introduction to Sentimental and Anti-Sentimental Comedies  
 4.3 Author Introduction  
 4.4 Richard Sheridan Brinsley (1751-1816) - The School for Scandal (Detailed)  
 4.5. Author Introduction  
 4.6 William Congreve (1670-1729) - The Way of the World (Non-Detailed)

**Unit V: Fiction K2-K4 (18 hours)**

- 5.1 Introduction to Types of Fiction  
 5.2 Introduction to Neo-Classical Fiction  
 5.3 Author Introduction  
 5.4 Daniel Defoe (1660-1731) - Robinson Crusoe  
 5.5 Author Introduction  
 5.6 Oliver Goldsmith (1730-1774) - The Vicar of Wakefield

**Books for Study:**

- Lynn, Mary Johnson Ed., John E. Grant. *Blake's Poetry and Designs*. Norton Critical, 2004.
- Defoe, Daniel. *Robinson Crusoe*. Peacock Books. 1719.
- Goldsmith, Oliver. *The Vicar of Wakefield*. Macmillan Publishers, 1986.



**Books for Reference:**

1. Ellis, Frank H. *Twentieth Century Interpretations of Robinson Crusoe*. Spectrum Book. 1969.
2. Grierson, HJC. *Metaphysical Lyrics and Poems of the Seventeenth Century*. Oxford University. 1972.
3. *The Norton Anthology of English Literature: The Restoration and the Eighteenth Century*. Norton. 1962.
4. A. G. Xavier. *The Social History of England*. Viswanathan Printers & Publishers. 2009

## UCENH20 - ROMANTIC LITERATURE

<b>Year:</b> II	<b>Course Code:</b> UCENH20	<b>Title of the Course:</b> Romantic Literature	<b>Course Type:</b> Theory	<b>Course Category:</b> Main	<b>H/W</b> 5	<b>Credits</b> 5	<b>Marks</b> 100
<b>Sem:</b> IV							

### Course Outcomes

The Learners will be able to

1. Locate the historical and cultural context of English Romanticism.
2. Discuss the traits of Romanticism with emphasis on concepts of self, imagination and the unconscious
3. Apply historical, social, philosophical and political contexts to interpret texts
4. Analyse the effects of the major events in that period.
5. Evaluate the impact of Romanticism on the development of literary form and modes of expression.

CO/PSO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	M	M	M
CO2	H	H	H	H	M	M
CO3	H	H	H	H	H	M
CO4	H	H	H	H	H	M
CO5	H	H	H	H	H	M

**H - High – (3), M - Moderate (2), L - Low (1)**

CO/PO	PO					
	1	2	3	4	5	6
CO1	H	H	H	M	M	M
CO2	H	H	H	H	M	M
CO3	H	H	H	H	H	M
CO4	H	H	H	H	H	M
CO5	H	H	H	H	H	M

### Unit I: Introduction / Detailed Poetry

**K Level (20 Hours)**

- |   |        |
|---|--------|
| 1.1 The French Revolution: The American war of Independence   | K1, K3 |
| 1.2 William Wordsworth: Lines Composed upon Westminster Abbey | K2, K4 |
| 1.3 John Keats: Ode on a Grecian urn                          | K2, K3 |
| 1.4 Poetic Techniques in Ode on a Grecian urn                 | K3, K4 |
| 1.5 P. B. Shelley: Ode to the West Wind                       | K3, K4 |
| 1.6 Themes and Symbols in Ode to the West Wind                | K3, K4 |

### Unit II: Non- Detailed Poetry

**K Level (20 Hours)**

- |  |        |
|--|--------|
| 2.1 S. T. Coleridge: The Rime of the Ancient Mariner | K1, K3 |
|--|--------|

2.2 Themes of The Rime of the Ancient Mariner	K2, K4
2.3 Lord Byron: She walks in Beauty	K2, K3
2.4 Robert Southey: To the Genius of Africa	K3, K4
2.5 Charlotte Byrne: The Female Philosopher	K3, K4
2.6 Characteristics of English Romantic Poetry.	K3, K4

**Unit III: Prose – Detailed K Level (20 Hours)**

3.1 William Hazlitt: The Indian Jugglers	K1, K2
3.2 William Hazlitt as a Romantic Essayist	K2, K3
3.3 Characteristics of the Indian Jugglers	K2, K3
3.4 Salient Characteristics of Romanticism	K2, K3
3.5 William Hazlitt: On Nicknames	K3, K4
3.6 Charles Lamb: Dream Children	K3, K4

**Unit IV: Fiction K Level (15 Hours)**

4.1 Walter Scott: Kenilworth	K2, K3
4.2 Kenilworth as a Romantic novel	K2, K3
4.3 Narrative art in Kennilworth	K2, K3
4.4 Jane Austen: Pride and Prejudice	K3, K4
4.5. Austen's portrayal of the women in Pride and Prejudice	K3, K4
4.6 Significance of the title Pride and Prejudice	K3, K4

**Unit V: Fiction K Level(15 Hours)**

5.1 Mary Shelley: Frankenstein	K2, K3
5.2 The role of suspense and foreshadowing in the novel	K2, K3
5.3 Theme of loneliness in Frankenstein	K2, K3
5.4 Horace Walpole: The Castle of Otranto	K2, K3
5.5 How was Walpole's novel connected to the actual Goths and their culture?	K3, K4
5.6 Symbolism and Imagery in The Castle of Otranto	K3, K4

**Books for Study:**

1. Nayar. K Pramod. The English Romantic Poets: An Anthology, Orient Blackswan Private Limited. 2013
2. Ed. Hollingworth. Essays: Hazlitt. University Tutorial Press Limited.
3. Austen, Jane, Pride and Prejudice, Rupa Publication. New Delhi, 2004.
4. Walpole Horace, The Castle of Otranto, Oxford University Press, India, 2008.

**Books for Reference:**

1. Plowman, Max. An Introduction to the Study of William Blake. Atlantic Publishers and Distributors. New Delhi. 1994.
2. Ed., Gill, Stephen, WU, Duncan, William Wordsworth Selected Poetry, Oxford University Press, New York, 2008.
3. Ed., Holloway, John, Selected Poems of Percy Bysshe Shelley, Heinemann Educational Books Ltd., Hong Kong, 1964.

4. Ed., Blunden, Edmund, Selected Poems John Keats, Rupa Publications India Private Limited, New Delhi, 2011.
5. Ed., Bloom, Harold, Jane Austen's Pride and Prejudice, Viva Books Private Limited, New Delhi, 2010.

**UCENI20 -SHAKESPEARE**

<b>Year:</b> III	<b>Course Code:</b> UCENI20	<b>Title of the Course:</b> Shakespeare	<b>Course Type:</b> Theory	<b>Course Category:</b> Main	<b>H/W</b> 6	<b>Credits</b> 5	<b>Marks</b> 100
<b>Sem:</b> V							

**Course Outcomes (CO)**

On Completion of the Course the Learners will be able to:

1. Remember the influence of the Age, Lines, Soliloquies and speeches
2. Understand the impact of the Elizabethan era, discuss and paraphrase the text
3. Apply concepts, explain & interpret, sketch character roles and situations
4. Analyze, Compare and contrast character sketches, examine the salient features of the text
5. Evaluate the nuances of meaning, the style and plot

CO/PSO	PSO					
	1	2	3	4	5	6
CO1	M	H	M	M	H	L
CO2	H	H	H	H	H	M
CO3	H	H	H	H	H	H
CO4	H	H	H	H	H	H
CO5	H	H	H	H	H	H

**H - High – (3), M - Moderate (2), L - Low (1)**

CO/PO	PO					
	1	2	3	4	5	6
CO1	M	H	M	M	H	L
CO2	H	H	H	H	H	M
CO3	H	H	H	H	H	H
CO4	H	H	H	H	H	H
CO5	H	H	H	H	H	H

- 1.1 The Age of Shakespeare
- 1.2 Life & Works
- 1.3 The Elizabethan Theatre, General Essays
- 1.4 Introduction to Shakespearean Tragedy
- 1.5 Introduction to Shakespearean Comedy
- 1.6 Introduction to the Play *Macbeth*

**Unit II: Plays**

**K1-K5**

**(18 hours)**

- 2.1 *Macbeth* Act I Sc i & ii (detailed)
- 2.2 *Macbeth* Sc iv – vii (detailed)
- 2.3 *A Midsummer Night's Dream*
- 2.4 MND Act I Sc I (detailed)
- 2.5 MND Act I Sc ii (detailed)
- 2.6 Introduction to Roman Plays – (Julius Caesar)

**Unit III: Plays**

**KI - K5**

**(18 hours)**

- 3.1. *Macbeth* Act II Sc i & ii (detailed)
- 3.2. *Macbeth* Act II Sc iii & iv (detailed)
- 3.3 *A Midsummer Night's Dream* Act II Sc I (detailed)
- 3.4 *A Midsummer Night's Dream* Act II Sc ii (detailed)
- 3.5 Julius Caesar – Characterization, Plot, Themes
- 3.6 Julius Caesar – Themes, General Essays

**Unit IV: Plays**

**K1-K5**

**(18hours)**

- 4.1 Introduction to History Plays
- 4.2 Introduction to Henry V: Characterization, Plot, Themes
- 4.3 *Macbeth* Act III Sc i & ii, iii (detailed)
- 4.4 *Macbeth* Act III Sc iv, v & vi (detailed)
- 4.5. *A Midsummer Night's Dream* Act Act III Sc I (detailed)
- 4.6 *A Midsummer Night's Dream* Act III Sc ii (detailed)

**Unit V: Plays**

**K1 – K5**

**(18 Hours)**

- 5.1 *Macbeth* Act IV Sc i, ii & iii (detailed)
- 5.2 *Macbeth* Act V Sc i - viii (detailed)
- 5.3 MND Act IV Sc i & ii (detailed)
- 5.4 MND Act V Sc I (detailed)
- 5.5 Problem Plays
- 5.6 Last Plays

**Sources:** Shakespeare – The Man H.E. Marshall (Pg. 14- 21)

[From A Further Approach to Shakespeare. London: Thomas Nelson, 1941.

Print] Shakespeare's Tragic Period A.C. Bradley (Pg 61-69; 307-318)

[From A.C Bradley. Shakespearean Tragedy, New York: Macmillan. 1957]

Shakespearean Comedy H.B. Charlton. *A Midsummer Night's Dream*

**Books for Study:**

[From H.B. Charlton. Shakespearean Comedy. Methuen & Co. Ltd London 1969]

Midsummer Night's Dream (Pg. 98-104)

[From Hazlitt, William. Characters of Shakespeare's Plays, London: OUP, 1966. Print.]

*Macbeth*, A Tragedy. William Shakespeare.

London: Nassau Steam Press, 1889

**Books for Reference:**

Edwards, Philip Shakespeare and the confines of Art Methuen & Co. Ltd London 1972.

Clemen, Wolfgang Shakespeare's Dramatic Art – Methuen & Co. Ltd London 1972. Norfolk.



## UCENJ20 - VICTORIAN LITERATURE

<b>Year:</b> III	<b>Course Code:</b> UCENJ20	<b>Title of the Course:</b> Victorian Literature	<b>Course Type:</b> Theory	<b>Course Category:</b> Main	<b>H/W</b> 6	<b>Credits</b> 5	<b>Marks</b> 100
<b>Sem:</b> V							

### Course Outcomes (CO)

On Completion of the Course the Learners will be able to:

1. Locate the realm of the Victorian era in the field of Historical Literary Studies
2. Discuss the shift/transition from an Idealistic to the Realistic World of Living
3. Examine different forms/genres personalized by Victorian writers with the predominant themes of the Age
4. Analyze literary works through careful study of the Age
5. Formulate a critical hypothesis so as to write creative literary pieces on diversified perspectives

CO/PSO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	M	M	M
CO2	H	H	H	H	M	M
CO3	H	H	H	H	H	M
CO4	H	H	H	H	H	M
CO5	H	H	H	H	H	T

**H - High – (3), M - Moderate (2), L - Low (1)**

CO/PO	PO					
	1	2	3	4	5	6
CO1	H	H	H	M	M	M
CO2	H	H	H	H	M	M
CO3	H	H	H	H	H	M
CO4	H	H	H	H	H	M
CO5	H	H	H	H	H	T

### Unit I: Poetry (Detailed)

**K1- K5**

**(10 hours)**

- 1.1 Introduction - The Victorian Age
- 1.2 The Industrial Revolution & The Agrarian Revolution, The Development

of Education in the Nineteenth Century

- 1.3 Matthew Arnold - Dover Beach
- 1.4 Rudyard Kipling - The Glory of the Garden
- 1.5 Robert Browning - My Last Duchess
- 1.6 Alfred Tennyson - Tithonus

**Unit II: Poetry (Non – Detailed) K1- K5 (15 hours)**

- 2.1 Major Themes in the Poetry of the Age
- .2 Authors' Introduction
- 2.3 Elizabeth Browning - Cry of the Children
- 2.4 Christina Rossetti - Echo
- 2.5 Gerard Manley Hopkins - The Habit of Perfection
- 2.6 Swinburne - Before the Beginning of Years

**Unit III: Prose K1- K5 (15 hours)**

- 3.1 Introduction to Victorian Prose as a genre
- 3.2 Predominant Essayists of the Age
- 3.3 Major themes of the age
- 3.4 Author's Introduction
- 3.5 Prose (Detailed):John Ruskin - The Stone of Venice
- 3.6 Prose (Non – Detailed):John Henry Newman - Accuracy of Mind

**Unit IV:Drama (Detailed) K1- K5 (20 hours)**

- 4.1 Introduction to the Plays
- 4.2 Key Playwrights of the Age
- 4.3 Major themes of contemporary plays
- 4.4 Analysis of different plays written by Oscar Wilde
- 4.5 Oscar Wilde - *Lady Windermere's Fan*
- 4.6 Characterization

**Unit V: Fiction K1-K5 (15 hours)**

- 5.1 Introduction to Fiction of the Victorian Age
- 5.2 Author's Introduction and analysis of their works
- 5.3 Thomas Hardy - *The Mayor of Casterbridge*
- 5.4 Emily Bronte - *Wuthering Heights*
- 5.5 George Eliot - *The Mill on the Floss*
- 5.6 Charles Dickens - *Oliver Twist*

**Books for Study:**

- Eliot, George. *Mill on the Floss*. London: OUP, 1949.
- Gilbert, J. Garraghan S. J. *Prose Types in Newman*. New York: Schwartz, Kirwin&Faussi.
- Hill, Robert W. Jr. *Tennyson's Poetry*. New York: w.w. Morton & Co, 2010.
- Lamb, Charles. *The Essays of Elia*. London: OUP, 1964.
- Sen, S. G. M. *Hopkins: Selected Poems*. New Delhi: Unique Publishers, 2008.
- Wilde, Oscar. *The Importance of Being Earnest and Other Plays*. Unites States: OUP, 2008.

**Books for Reference:**

Evans, Ray. *The Mayor of Casterbridge* by Thomas Hardy. London: Macmillan Publications, 1987.

Sen, S. *Matthew Arnold: Selected Poems*. New Delhi: Unique Publishers, 2008.

Singh & Singh. Ed. *Lamb's Essays*. Bareilly: Shri Ram Press, 1971.

Steane, J. B. *Literature in Perspective: Tennyson*. London: Evans Brothers Limited.

## UEENA20 - INDIAN WRITING IN TRANSLATION

<b>Year :</b> III <b>SEM</b> :VI	<b>Course Code :</b> UEENA20	<b>Title Of The Course :</b> Indian Writing in Translation	<b>Course Type</b> Theory	<b>Course Category :</b> Elective	<b>H/W</b> <b>6</b>	<b>Credits</b> <b>5</b>	<b>Marks</b> <b>100</b>
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### Course Outcomes (CO)

On Completion of the Course the Learners will be able to:

1. Locate Indian literary tradition reflected in literary texts
2. Discuss the versatile culture of India.
3. Read texts in relation to their historical and cultural contexts.
4. Appreciate the diversity of literary and social voices within and sometimes marginalized by those traditions.
5. Analyse the “Indian-ness” and the writing style of the native writers.

CO/PSO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	M	M	M
CO2	H	H	H	H	M	M
CO3	H	H	H	H	H	M
CO4	H	H	H	H	H	M
CO5	H	H	H	H	H	M

**H - High – (3), M - Moderate (2), L - Low (1)**

CO/PO	PO					
	1	2	3	4	5	6
CO1	H	H	H	M	M	M
CO2	H	H	H	H	M	M
CO3	H	H	H	H	H	M
CO4	H	H	H	H	H	M
CO5	H	H	H	H	H	M

### Unit I: Introduction to Translation K Level: K1, K2, K3, K4, K5 & K6 (10 Hours)

- 1.1 Introduction to Translation
- 1.2 Introduction to Indian Writing in Translation

- 1.3 Survey of the history
- 1.4 Growth & role of translation in India
- 1.5 Key Concepts in Translation
- 1.6 From word worlds: Translation and Communication

**Unit II: Poetry** K Level: K1, K2, K3, K4, K5 & K6 (15 Hours)

- 2.1 Author's Introduction of the Unit
- 2.2 Subramania Bharati's Wind, 9
- 2.3 Chemmanam Chacko's Rice (148 – 149)
- 2.4 Jyoti Lanjeswar's I Never Saw You (171 – 175)
- 2.5 Gaddar's It will not stop
- 2.6 Sahir Ludhianvi's Let's Weave a Dream

**Unit III: Prose**  
K2, K3, K4, K5 & K6

**K Level: K1,  
(15 Hours)**

- 3.1 Introduction to translated essays
- 3.2. Introduction to the essayists
- 3.3. Rassundari Devi's Amar Jibar (My Life) The Sixth composition (199-202)
- 3.4. A.K. Ramanujan's Telling Tales: Tales have Relatives all over the word (456 – 462)
- 3.5. P. Sivakami's Land: Women's Breath and Speech
- 3.6. Durga Khote's Memories of the Marathi Stage (1910 – 26)  
I had inherited... taking its course

**Unit IV: Drama**  
K4, K5 & K6 (20 Hours)

**K Level: K1, K2, K3,**

- 4.1 Introduction to the playwright
- 4.2 Introduction to the characters in the play
- 4.3 Introduction to Girish Karnard's Tuglaq
- 4.4 Thematic analysis of the play
- 4.5 Theoretical analysis of the play
- 4.6 Theatrical aspects of the play

**Unit V: Fiction** K Level: K1, K2, K3, K4, K5 & K6

**(15 Hours)**

- 5.1 Shanmugasundaram's Nagammal (Fiction)
- 5.2 R. Chudamani's Does Anyone Care?
- 5.3 Prabanchan's Brahma Vriksha
- 5.4 Satyam Sankarmanchi's The Flood
- 5.5 B.M. Zuhara's Literacy
- 5.6 Afrose Sayeeda's Destination Spring

**Books for Study:**

Wordscapes: Indian Literature in Translation

**UEENE20 - NEW LITERATURES IN ENGLISH**

<b>Year :</b> III <b>SEM</b> :VI	<b>Course Code :</b> UEENE20	<b>Title Of The Course :</b> New Literatures in English	<b>Course Type</b> Theory	<b>Course Category :</b> Elective	<b>H/W</b> 6	<b>Credits</b> 5	<b>Marks</b> 100
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**Course Outcomes (CO)**

On Completion of the Course the Learners will be able to:

1. Identify the relationship between Great Britain and Nations that were once colonized.
2. Describe modes of writing and reading that interrogate histories and the presence of colonial mentalities and ways of life in a variety of postcolonial locations.
3. Discuss the problems of race, class, history and identity presented in the Postcolonial texts.
4. Analyze the problems of identity, subjugation and cultural identification
5. Appraise the complex maze of theoretical terms and concepts that characterize Postcolonial studies and savor the wonderful variety and richness of Literature.

CO/PSO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	M	M	M
CO2	H	H	H	H	M	M
CO3	H	H	H	H	H	M
CO4	H	H	H	H	H	M
CO5	H	H	H	H	H	M

**H - High – (3), M - Moderate (2), L - Low (1)**

CO/PO	PO					
	1	2	3	4	5	6
CO1	H	H	H	M	M	M
CO2	H	H	H	H	M	M
CO3	H	H	H	H	H	M

CO4	H	H	H	H	H	M
CO5	H	H	H	H	H	M

## Course Syllabus

### Unit I:

K1- K5 (15

hours)

1.1 Introduction – Common Wealth Literature, Postcolonialism, New Literatures

1.2 Countries and Writers (An Introduction)

#### Poetry: Detailed

1.3. Faiz Ahmed Faiz (Pakistan)- Nowhere, No trace can I Discover

1.4 Gabriel Okara (Africa) -You laughed and laughed and laughed

1.5 Margaret Atwood (Canada) -Journey to the Interior

1.6 Edwin Thumboo (Malaysia) -Ulysses by the Merlion

[Ed. Narasimhaiah C D. *Anthology of Commonwealth Poetry*.

Chennai: Macmillan Publishers. 1988]

### Unit II: Poetry : Non-Detailed

K1-K5

(15

hours)

2.1. Themes of Postcolonial Literature/ New Literatures

2.2. Countries and Writers – An Introduction

2.3. Patrick Fernando (Sri Lanka)-Elegy for my son

2.4. Allen Curnow (New Zealand) – Time

2.5. E.E Tiang Hong (Malaysia) - On Writing a poem

2.6 David Diop (Africa) -Africa

[Ed. Narasimhaiah C D. *Anthology of Commonwealth Poetry*.

Chennai: Macmillan Publishers.1988]

### Unit III: Prose: Detailed

K1- K5

(20

hours)

3.1 Introduction to Writers

3.2 Terms : Colonialism, Decolonisation, Racism, Imperialism,  
Negritude, Orientalism, Nationalism,

3.3 Chinua Achebe (Nigeria)- The

Novelist as a Teacher 3,4 Chinua

Achebe (Nigeria)- The Novelist as a

Teacher

3.5 NgugiwaThiong’O- From Decolonising the mind

I was born...in the lives of  
Kenyan Children  
3.6 Ngugi waThiong'O- From Decolonising the mind

I was born...in the lives of  
Kenyan Children

[Ed. Welsh, William. *Readings in Commonwealth Literature*.  
Clarendon Press: Oxford. 1973]

**Unit IV: Drama**

**K1- K5 (15**

**hours)**

- 4.1 Drama – An Introduction : Themes, Issues
- 4.2 Introduction to Playwrights
- 4.3 Wole Soyinka (Nigeria)- The Lion and the Jewel
- 4.4 Wole Soyinka (Nigeria)- The Lion and the Jewel
- 4.5 Lorraine Hansberry (Afro-America)-A Raisin in the Sun
- 4.6 Lorraine Hansberry (Afro-America)-A Raisin in the Sun

**Unit V:**

**K1-K5 (20 hours)**

**Fiction**

- 5.1 Introduction Major Novelist and Short story writers, Themes, Genres
- 5.2 Amy Tan- The Joy Luck Club
- 5.3 Chimamanda Ngozi Adichie -*Half of a Yellow Sun*
- 5.4 Yann Martel -Life of Pi

**Short Story**

- 5.5 Vance Palmer (Australia)- The Birthday
- 5.6 Alice Munro (Canadian)-Differently  
[*The World's Greatest Short Short Stories*. India: Jaico Publishing House. 2008]

**Books for Study and References:**

Ed. Nasta, Susheila. *Writing Across Worlds*. London: Routledge. 2004

Punter, David. *Postcolonial Imaginings: Fictions of a New World Order*. Atlantic: New Delhi. 2005.



### 1.1.1 – DEPARTMENT OF HISTORY – HUMAN VALUES NEEDS

#### **UCHII20- HISTORY OF ANCIENT CIVILIZATION (EXCLUDING INDIA)**

<b>Year:</b> III	<b>Course Code:</b>	<b>Title of the Course:</b>	<b>Course Type:</b>	<b>Course Category:</b>	<b>H/W</b>	<b>Credits</b>	<b>Marks</b>
<b>Sem:</b> V	UCHII20	History of Civilization (Excluding India)	Theory	Core	6	6	100 40+60

#### **Course Objectives:**

1. To help the students to understand World Civilizations and its development
2. To enable the students to know the Origin and development of Art of Writing
3. To help the students to analyze the contributions of various Civilizations to Art, Religion, Literature and Architecture and Philosophy

#### **Course Outcomes (COS):**

##### **After completion of the course the student will able to:**

1. Explain the concepts of Civilizations and analyze critically the contribution of the Egyptian and Sumerian Civilization and their role in offering best to the world
2. Analyze and understand the legacy of Babylonian, Assyrian and Chinese Civilization to the World and enhance entrepreneurial skills and to contribute to the society assuming leadership
3. Compare the Early Civilizations with Modern Civilization and to become the Agents of the Social Change and communicate the ideas and principles of Hebrew, Persian civilization
4. Discuss the beautiful idea and principles in Greek Civilization and critically analyze the legacy of Greek Civilization and gain Knowledge on the contribution of the Philosophers to the World and to become effective leaders and communicators

5. Trace the Contribution of Prominent Kings of Rome to the world and to appreciate their Art and Architecture and to exercise leadership and Teamwork.

CO/PO	1	2	3	4	5	6
CO1	H	H	L	L	M	L
CO2	H	H	L	L	H	H
CO3	H	H	H	L	H	L
CO4	H	H	H	L	H	M
CO5	H	H	M	L	H	M

**H-High (3), M-Medium (2) L-Low (1)**

CO/PSO	1	2	3	4	5	6
CO1	H	H	L	L	M	L
CO2	H	H	H	L	M	H
CO3	H	M	H	H	M	L
CO4	H	H	M	H	H	L
CO5	H	M	H	L	H	L

**H-High (3), M-Medium (2) L-Low (1)**

**Unit I:**

**(18 Hours)**

1.1: Introduction – Human Civilization – Civilization in River Valleys

1.2: Egyptian Civilization-River Nile-Socio Life: Society, Dress and Food, Position of Women, Amusements-Religion- Political Life:- Pyramid Age, Feudal Age, The New Empire- Economic life: Agriculture-Crafts-Commerce- (K2)

1.3: Art and Architecture of Egyptian- Literature and Hieroglyph (K4)

1.4: Sumerian Civilization- Social Life- Economic life- Religious life (K2)

1.5: Art and Architecture of Sumerian-Literature- Cuneiform Writing (K4)

1.6: Religion (K2)

**Unit II: (18 Hours)**

2.1: Babylonian Civilization - Socio- Political, Economic and Religious life (K2)

2.2: Arts and Science – Law Code of Hammurabi (K1)

2.3: Assyrian Civilization- Society – Government – Religion – Art and Architecture- Military Organization (K2)

2.4: Chinese Civilization- Early History-Dynasties (K2)

2.5: Legacy of Chinese Civilization (K2)

2.6: Philosophers of Chinese- Taoism-Confucianism (K3)

**Unit III: (18 Hours)**

3.1: Phoenician Civilization- Land and People -Political Life-Traders-Alphabets (K2)

3.2: Hebrew Civilization -Government-Art and Architecture-Religion-Jehovah-Works of the Prophet (K2)

3.3: Literature of Hebrew - The Old Testament-The Talmud-The New Testament (K3)

3.4: Persian Civilization– Society- Politics (K2)

3.5: Administration of Persian-Government of Darius- Art, Architecture and Literature (K3)

3.6: Zoroastrianism and its Teaching (K3)

**Unit IV: (18 Hours)**

4.1: Greek Civilization- Ancient Greece – History of Ancient Greece-Social and Economic Life of Greek (K2)

4.2: Legacy of Greek:-Art and Architecture, Literature, Science, Philosophers: Socrates- Plato- Aristotle (K4)

4.3: Democracy of Athens – The Code of Draco-Solon's Reforms-Cleisthenes Reforms-Age of Pericles- Spartan Government (K3)

4.4: Legacy of Greek Arts – Religion, Literature, Architecture and Philosophy of Greek (K3)

4.5: Alexander and Hellenistic Civilization- Government and Society-Economy- Education-Philosophy-Science (K3)

4.6: Science (K3)

**Unit V: (18 Hours)**

5.1: Ancient Rome and Roman Government –Roman Republic and Carthage-Julius Caesar-Augustus Caesar-Constantine (K2)

5.2: Society-Economic and Religion and their contribution

5.3: Golden Age of Rome: Art, Architecture, Literature (K2)

5.4: Roman Law-Causes for the fall of Roman Empire (K1)

5.5: Rise and Spread of Christianity-Jesus Birth- Principles- Death of Christ (K2)

5.6: Rise of Papacy-Organisation of Churches (K4)

**Text Books**

1. Dr. R.K. Jha – History of World Civilization – Bhasker Publications; Kanpur, 2012.

**Reference Books**

1. Gokhale B.K. – Introduction to Western Civilization – S. Chand and Company, 1984.
2. Swain J.K. – A History of World Civilization – S. Chand and company, New Delhi 1947.
3. WallBank and Taylor – Civilization : Past and Present – Chicago company
4. Manoj Sharma – History of World civilization – Annual Publication, New Delhi 2005.
5. R.K. Majumdar & A.N. Srivastva - – History of world civilization- SBP Publisher and Distributors, Delhi – 1994

6. Dharam Singh - Ancient & Modern Civilization – Alfa Publication – 2008.

**Open Educational Resources (OER):**

1. <https://www.history.com/topics/ancient-history/ancient-egypt>
2. <https://www.history.com/topics/ancient-middle-east/mesopotamia>
3. <https://www.ancient.eu/china>
4. <https://www.britannica.com/place/Phoenicia>
5. <https://www.britannica.com/topic/Hebrew>
6. <https://www.history.com/topics/ancient-middle-east/persian-empire>
7. <https://www.britannica.com/place/ancient-Greece>
8. <https://www.britannica.com/place/Roman-Empire>
9. <https://courses.lumenlearning.com/suny-hccc-worldhistory/chapter/the-rise-of-christianity/>

**UCHIM20: INDIAN POLITY AND CONSTITUTION**

<b>Year:</b> III	<b>Course Code:</b>	<b>Title of the Course:</b>	<b>Course Type:</b>	<b>Course Category:</b>	<b>H/W</b>	<b>Credits</b>	<b>Marks</b>
	UCHIM20	Indian Polity and Constitution	Theory	Core	6	5	100
<b>Sem:</b> VI							40+60

**Course Objectives:**

1. To help the students to understand the know the Basics of Indian Constitution and its Governance
2. To help the students to assimilate the powers and functions of the President, Vice-Prime Minister, Prime Minister and Central Council of Ministers.
3. To enable the students to know the functions of the Judiciary

**Course Outcome(CO):**

**After completion of the course the student will able to :**

1. Describe the Emergence and Evolution of Indian Constitution.

2. Analyze the historical background of the constitution and administration structure
3. Estimate the Indian Polity System.
4. Explain the salient features of Indian Constitution
5. Assess the social responsibilities for making a sustainable nation.

CO/PO	1	2	3	4	5	6
CO1	H	M	M	L	M	M
CO2	M	H	H	M	M	H
CO3	M	M	H	L	H	H
CO4	H	M	H	M	L	M
CO5	M	M	H	L	L	H

**-High (3), M-Medium (2) L-Low (1)**

CO/PSO	1	2	3	4	5	6
CO1	L	L	M	H	H	M
CO2	M	L	M	M	H	L
CO3	L	M	H	L	H	H
CO4	L	L	H	M	H	H
CO5	M	L	M	H	H	H

**High (3), M-Medium (2) L-Low (1)**

## **Unit I**

**(18 Hours)**

- 1.1 Introduction: Framing of the Indian Constitution & Preamble (K2)
- 1.2 Salient Features of the Constitution (K2)
- 1.3 Citizenship & Fundamental Rights (K1, K2)
- 1.4 Directive Principles of State Policy (K2)
- 1.5 Fundamental Duties (K1, K2)
- 1.6 Amendments & National Symbols (K1, K2)**

## **Unit II**

**(18 Hours)**

- 2.1 The Union Government (K2)
- 2.2 The Powers and Functions of the President (K2)
- 2.3 The Vice President (K2)
- 2.4 The powers and functions of the Prime Minister (K2)
- 2.5 Central Council of Ministers & the Parliament (K2)
- 2.6 Rajya Sabha & Speaker.(K2)

## **Unit III**

**(18 Hours)**

- 3.1 The State Government (K2)
- 3.2 The State Council of Ministers (K2)
- 3.3 The State Legislative Assembly (K2)
- 3.4 Special Status of NorthEast and others States (K2)
- 3.5 Urban Government (K2)
- 3.6 Rural Government (K2)

## **Unit IV**

**(18 Hours)**

- 4.1 Judiciary (K2)
- 4.2 Apex Court of India (K2)
- 4.3 Functions of Supreme Court & Appointments (K2)
- 4.4 High Court & District Courts (K2)
- 4.5 Powers of Judiciary (K2)
- 4.6 Judicial Review (K2)

## **Unit V**

**(18 Hours)**

- 5.1: Election Commission of India ( K2)
- 5.2: Chief Election Commissioner (K2)
- 5.3: State Election Commissioner (K2)
- 5.4: Central Information Commission (K2)

5.5: Central Vigilance Commission (K2)

5.6: Central Bureau of Investigation (K2)

### **Text book**

1. Durgadas Banu. (2015). Introduction to the constitution of India. Noida: Lexis Nexis.
2. Laxmikanth M. (2010). Indian Polity. Chennai : McGraw Hill Education.

### **References :**

1. Dash, Shreeram Chandra. (1986). The Constitution of India: A Comparative Study. India  
Chaitanya Pub. House.
2. Jayapalan N. (1998). Constitutional History of India. India : Atlantic Publishers & Distributors.
3. Jojo Mathew. (2018). Indian Polity and Constitution –A complete handbook for IAS and  
IPS (13<sup>th</sup> Revised Edt) India : ALS Publication.
4. Hansraj. Indian Government and Politics. New Delhi: Surjeet Publications.
5. Karthikeyan. (2018). Governance in India –Basics and Beyond. Noida: Pearson Publication.
6. Subramanian S.G. Indian Constitution and Polity. New Delhi: Pearson Publications.

### **Open Educational Resources (OER)**

- 1.<https://www.jagranjosh.com/general-knowledge/indian-polity-governance-a-complete-study-material-1465367884-1>
- 2.[www.istm.gov.in](http://www.istm.gov.in)
- 3.<https://www.jagranjosh.com/general-knowledge/indian-polity-governance-a-complete-study-material-1465367884-1>
- 4.[www.eci.gov.in](http://www.eci.gov.in)
- 5.[file:///C:/Users/user/Downloads/1372155919COI-ENG%20\(1\).pdf](file:///C:/Users/user/Downloads/1372155919COI-ENG%20(1).pdf)



## SEMESTER – II

### UABEA20 – Business Environment and Ethics

<b>Year: I</b> <b>Sem: II</b>	<b>Course Code:</b> UABEA20	<b>Title of the Course:</b> Business Environment and Ethics	<b>Course Type:</b> Theory	<b>Course Category:</b> Elective	<b>H/W</b> 5	<b>Credits</b> 5	<b>Marks</b> 100
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#### Objectives

1. To know about the environment and its impact on business
2. To understand the political environment and role of government in business
3. To understand the economic system, financial system and their implication in business
4. To know the impact of Privatization, Globalization and Liberalization on the business
5. To realize the importance of business ethics and social responsibility as an individual to the society

#### Course Outcomes (CO)

The learners will be able to

1. Understand the Business environment
2. Be able to inter-relate the political and legal environment in business
3. Relate the importance of economic and financial environment to business
4. Comprehend the vitality of Privatization, Globalization and Liberalization in the business
5. Recognize the importance of business ethics and social responsibility in today's business

CO	PO					
	1	2	3	4	5	6
CO1	L	M	L	M	H	H
CO2	H	H	M	L	L	H
CO3	H	M	L	H	H	H
CO4	H	L	M	M	M	M
CO5	M	H	H	M	L	H

**H- High (3), M- Moderate (2), L- Low (1)**

CO	PSO					
	1	2	3	4	5	6
CO1	L	M	L	M	H	H
CO2	H	H	M	L	H	M
CO3	M	M	L	H	H	H
CO4	H	L	H	M	M	M
CO5	M	H	H	M	L	H

**H- High (3), M- Moderate (2), L- Low (1)**

## **Course Syllabus**

### **UNIT I Introduction (15 Hours)**

- 1.1 Business Environment – Definition (K1,K2)
- 1.2 Significance (K1,K2)
- 1.3 Political, Legal environment (K1,K2)
- 1.4 Economic and Social environment (K1,K2)
- 1.5 Cultural environment (K1,K2)
- 1.6 Cultural heritage (K1)

### **UNIT II Political and legal Environment (15 Hours)**

- 2.1 Political environment (K1,K2.K3)
- 2.2 Rights according to Indian constitution (K1,K2.K3)
- 2.3 Economic roles of Government in business (K1,K2.K3)
- 2.4 Legal environment- Classification of companies (K1,K2.K3)
- 2.5 Memorandum of Association- Articles of Association- Prospectus (K1,K2.K3)
- 2.6 Types of shares- Debentures -Winding up of companies. (K1,K2.K3)

### **UNIT III: Economic System and Financial Environment (15 Hours)**

- 3.1 Economic System and their impact of business (K1,K2)
- 3.2 Business Cycle (K1,K2)
- 3.3 Inflation and Deflation - Meaning – Causes - Effects - Control (K1,K2)
- 3.4 Measures to be adopted by business firms to reduce the evil effects of business cycle (K1,K2)
- 3.5 Financial Environment (K1,K2)
- 3.6 Financial system – Commercial Banks. (K1,K2)

### **UNIT IV: Privatization, Liberalization and Globalization (15 Hours)**

- 4.1 Privatization – Meaning (K1,K2)
- 4.2 Ways of privatization – Privatization in India (K1,K2)
- 4.3 Liberalization – Meaning (K1,K2)
- 4.4 Globalization – Meaning (K1,K2)
- 4.5 Merits and demerits of globalization (K1,K2)
- 4.6 Consumer Protection Act

### **UNIT V: Business ethics (15 Hours)**

- 5.1 Business ethics (K1,K2, K3)
- 5.2 Ethics in business and community (K1,K2)
- 5.3 Social responsibility towards customers and community (K1,K2)
- 5.4 Social responsibility towards and community (K1,K2)
- 5.5 Business Giving (K1,K2)
- 5.6 Social Audit (K1,K2)

## **Text Books**

1. Sankaran S, Business Environment, Margham Publications, Chennai, 5<sup>th</sup> Edition, 2013.
2. Francis Cherunilam, Business Environment: Text and Cases, Himalaya Publishing House Pvt.Ltd., Mumbai, 12<sup>th</sup> Edition, 2013

## **Reference Books**

1. R. Jayaprakash Reddy, Business Environment, APH Publishing Corporation, New Delhi, 4<sup>th</sup>Edition, 2004.
2. S.K. Bhatia, Business Ethics and Managerial Value, Deep and Deep Publication, New Delhi, 3<sup>rd</sup> Edition, 2010

**SEMESTER – V****UCBAM20 – Industrial Relations**

<b>Year: III</b> <b>Sem: V</b>	<b>Course Code:</b> UCBAM20	<b>Title of the Course:</b> Industrial Relations	<b>Course Type:</b> Theory	<b>Course Category:</b> Core	<b>H/W</b> 6	<b>Credits</b> 4	<b>Marks</b> 100
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**Objectives**

1. To understand the concept and the meaning of Industrial Relations and The Payment of Wages Act, 1936
2. To acquire knowledge about The Factories Act, 1947
3. To understand the concept of The Maternity Benefit Act, 1936
4. To understand the concept of The Industrial Dispute Act, 1947
5. To enable the learners absorb the concept of The Employees State Insurance Act, 1948 and The Minimum Wages Act 1948

**Course Outcomes (CO)**

The learners will be able to

1. Understand the concept & meaning of Industrial Relations and The Payment of Wages Act, 1936
2. Acquire knowledge about The Factories Act, 1947
3. Analyse and understand the concept of The Maternity Benefit Act, 1961
4. Attain knowledge of The Industrial Dispute Act, 1947
5. Be able to absorb the concept of The Employees State Insurance Act, 1948 & The Minimum Wages Act 1948

CO	PO					
	1	2	3	4	5	6
CO1	M	L	L	M	L	M
CO2	L	L	L	M	M	M
CO3	L	M	L	M	L	L
CO4	M	L	L	M	H	L
CO5	M	L	L	M	M	H

**H- High (3), M- Moderate (2), L- Low (1)**

CO	PSO					
	1	2	3	4	5	6
CO1	M	L	L	M	L	M
CO2	L	H	L	M	M	M
CO3	H	M	L	H	L	H
CO4	M	L	H	M	H	L
CO5	M	HL	L	M	M	H

**H- High (3), M- Moderate (2), L- Low (1)**

## **Course Syllabus**

### **UNIT I Introduction**

**(18 hours)**

- 1.1 Introduction to IR – meaning – importance (K1)
- 1.2 Participation and Empowerment – definition – objectives – advantages (K1, K2)
- 1.3 The Payment of Wages Act, 1936 – rules for the payment of wages (K1, K2, K3)
- 1.4 Deduction of wages – enforcement of the Act (K2, K3)
- 1.5 Roles and functions of the inspectors (K2, K3)
- 1.6 Powers of the inspectors (K1, K2, K3)

### **UNIT II The Factories Act, 1948**

**(18 hours)**

- 2.1 The Factories Act, 1948 – definition – Factory – Manufacturing process – Worker (K1, K2)
- 2.2 Approval, licensing and registration – notice by occupier (K1, K2, K3)
- 2.3 The Inspecting staff (K2, K3)
- 2.4 Health of the worker (K2, K3)
- 2.5 Safety of the worker (K2, K3)
- 2.6 Welfare of the worker – the working hours of adults – employment of adults – employment of young person – holidays and leave – overtime. (K2, K3, K4)

### **UNIT III The Maternity Benefit Act, 1961 & The Employee State Insurance Act, 1948 (18 hours)**

- 3.1 The Maternity Benefit Act, 1961 – definition – child – employer – circumstances and period (K1, K2)
- 3.2 Prohibition of Employment – right to the payment to Maternity Benefit – leave and nursing breaks – appointment of inspectors - penalties and offences (K2, K3, K4)
- 3.3 The Employee State Insurance Act, 1948 – definition – Principal Employer – Insurable Workman (K1, K2)
- 3.4 ESI Corporation – powers and duties of the corporation – the Standing Committee – medical benefit council (K2, K3, K4)
- 3.5 ESI fund – inspectors – contributions – benefits – rules regarding benefits – employee's insurance court – penalties (K2, K3, K4)
- 3.6 Obligations and rights of the employees and employers. (K2, K3)

### **UNIT IV The Industrial Dispute Act, 1947**

**(18 hours)**

- 4.1 The Industrial Dispute Act, 1947 – scope and objectives (K1, K2)
- 4.2 Features – definition of Industry (K1, K2, K3)
- 4.3 Industrial dispute – industrial establishment of undertaking (K1)
- 4.4 Layoff, lockout (K2, K3)
- 4.5 Retrenchment – strike (K2, K3)
- 4.6 Unfair labour practices. (K2, K3)

### **UNIT V The Minimum Wages Act, 1948**

**(18 hours)**

- 5.1 The Minimum Wages Act, 1948 – definition – fixation and revision of wages – minimum rates of wages (K1, K2)
- 5.2 Procedure for fixing and revision minimum wages – advisory board – central advisory board (K2, K3)
- 5.3 Safeguard in the payment of minimum wages (K2, K3)
- 5.4 Power of inspectors – claims (K2, K3)
- 5.5 Offences and penalties (K2, K3)
- 5.6 Obligation and rights of the employees (K2, K3, K4)

**Text Books**

1. Saravanavel & Sumathi, Legal Aspects of Business, Eswar Press, New Delhi, 2<sup>nd</sup> Edition, 2012
2. S C Srivastava, Industrial Relations and Labour Laws, Vikas Publishing House, New Delhi, 6<sup>th</sup> Edition, 2017

**Reference Books**

1. Martand T Telsang, Industrial and Business Management, Sultan Chand & Sons, New Delhi, 3<sup>rd</sup> Edition, 2014
2. M R Sreenivasan, Industrial Relations and labour Legislations, Margham Publications, Chennai, 6<sup>th</sup> Edition, 2014

## **SEMESTER III**

### **UECOA20 - PRINCIPLES OF MANAGEMENT**

<b>Year/ Semester II/III</b>	<b>Course Code UECOA20</b>	<b>Title of the course Principles of Management</b>	<b>Course type Theory</b>	<b>Course category Elective</b>	<b>No. of. Hours 5</b>	<b>Credits 5</b>	<b>Marks 40+60</b>
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#### **Course Objectives:**

1. To help the students to develop cognizance of the importance of management principles.
2. To outline the major functions of management.
3. To develop and achieve organisational goal and objectives.
4. To gain valuable insight into the workings of business and other organisations.
5. To understand the role of communication in the management function.

#### **Course Learning Outcomes(CLO):**

The learners will able to:

1. Learn the concept and understand the principles and managerial skills.
2. Impart knowledge in planning, diagnosing and solving organizational problems and developing optimum managerial solutions.
3. Gain knowledge in organizing and delegating authority under various structures.
4. To identify and analyse attributes that motivate to work under different leadership styles.
5. To become versatile in co-ordinating and developing the skill of effective communication.

#### **COs consistency with POs**

<b>CO</b>	<b>PO 1</b>	<b>PO 2</b>	<b>PO 3</b>	<b>PO 4</b>	<b>PO 5</b>	<b>PO 6</b>
<b>1</b>	H	H	H	H	H	H
<b>2</b>	H	H	H	H	H	H
<b>3</b>	H	H	H	H	H	H
<b>4</b>	H	H	H	H	H	H
<b>5</b>	H	H	H	H	H	H

**(Low – L, Medium – M, High – H)**

#### **COs Consistency with PSOs**

<b>CO</b>	<b>PSO 1</b>	<b>PSO 2</b>	<b>PSO 3</b>	<b>PSO 4</b>	<b>PSO 5</b>	<b>PSO 6</b>
<b>1</b>	H	H	H	H	H	H
<b>2</b>	H	M	H	H	H	H
<b>3</b>	H	H	H	H	H	H
<b>4</b>	H	H	M	H	H	H
<b>5</b>	H	H	H	H	H	M

**Low – L, Medium – M, High - H**

## Course Syllabus

### **UnitI: Introduction (15 Hours)**

- 1.1 Management, Meaning, Definition, Concepts, Nature and Characteristics (K<sub>1</sub>,K<sub>2</sub>,K<sub>3</sub>)
- 1.2 Levels, Importance and Scope (K<sub>1</sub>,K<sub>2</sub>)
- 1.3 Skills of manager, Process of Management, Functions (K<sub>2</sub>,K<sub>3</sub>,K<sub>4</sub>)
- 1.4 Principles, Contributions by F.W. Taylor (K<sub>1</sub>,K<sub>2</sub>,K<sub>3</sub>,K<sub>4</sub>)
- 1.5 Henri Fayol & Peter F. Drucker (K<sub>1</sub>,K<sub>2</sub>,K<sub>3</sub>,K<sub>4</sub>)
- 1.6 Conceptual idea of Corporate Social Responsibility. (K<sub>2</sub>,K<sub>3</sub>,K<sub>4</sub>)

### **UnitII:Planning and Decision Making (15 Hours)**

- 2.1 Planning, Meaning, Definition, Nature, Importance (K<sub>1</sub>,K<sub>2</sub>,K<sub>3</sub>)
- 2.2 Advantages and Limitations (K<sub>1</sub>,K<sub>2</sub>)
- 2.3 Steps in the Process of Planning, Types of Plans (K<sub>2</sub>,K<sub>3</sub>,K<sub>4</sub>)
- 2.4 Concept of M.B.O. (K<sub>2</sub>,K<sub>3</sub>,K<sub>4</sub>)
- 2.5 Forecasting, meaning, steps and problems (K<sub>1</sub>,K<sub>2</sub>,K<sub>3</sub>,K<sub>4</sub>)
- 2.6 Decision Making, Meaning, steps and problems (K<sub>1</sub>,K<sub>2</sub>,K<sub>3</sub>,K<sub>4</sub>)

### **Unit III: Organising (15 Hours)**

- 3.1 Organising, Meaning, Nature, Importance (K<sub>1</sub>,K<sub>2</sub>,K<sub>3</sub>)
- 3.2 Principles, Steps of organizing (K<sub>1</sub>,K<sub>2</sub>,K<sub>3</sub>,K<sub>4</sub>)
- 3.3 Types of Organisation structure (Line, Functional, Line and Staff, Committee – Excluding Advantages and Disadvantages) (K<sub>1</sub>,K<sub>2</sub>,K<sub>3</sub>,K<sub>4</sub>)
- 3.4 Delegation, Meaning, Types (K<sub>1</sub>,K<sub>2</sub>)
- 3.5 Process and Principles of delegation (K<sub>2</sub>,K<sub>3</sub>,K<sub>4</sub>)
- 3.6 Decentralisation of Authority, Differences between Delegation and Decentralisation (K<sub>2</sub>,K<sub>3</sub>,K<sub>4</sub>)

### **UnitIV: Staffing and Motivation (15 Hours)**

- 4.1 Staffing, Meaning, Elements or Functions, Importance (K<sub>1</sub>,K<sub>2</sub>)
- 4.2 Recruitment and Selection process (K<sub>1</sub>,K<sub>2</sub>,K<sub>3</sub>,K<sub>4</sub>)
- 4.3 Meaning of Directing, Nature and Characteristics of Directing, Significance (K<sub>1</sub>,K<sub>2</sub>,K<sub>3</sub>,K<sub>4</sub>)
- 4.4 Leadership, Meaning, Nature, Functions, Importance, Types or Styles of leadership. (K<sub>1</sub>,K<sub>2</sub>,K<sub>3</sub>,K<sub>4</sub>)
- 4.5 Motivation, Meaning, Monetary and Non-Monetary Incentives (K<sub>1</sub>,K<sub>2</sub>,K<sub>3</sub>,K<sub>4</sub>)
- 4.6 Theories of Motivation, Maslow, McGregor, Herzberg. (K<sub>1</sub>,K<sub>2</sub>,K<sub>3</sub>,K<sub>4</sub>)

### **UnitV: Control and Coordination (15 Hours)**

- 5.1 Control, Definition, Meaning, Nature and Purpose, Elements (K<sub>1</sub>,K<sub>2</sub>,K<sub>3</sub>,K<sub>4</sub>)
- 5.2 Need and Significance, Control Process, Problems in the Control (K<sub>1</sub>,K<sub>2</sub>,K<sub>3</sub>,K<sub>4</sub>)
- 5.3 Management by Exception, Co-ordination, Meaning, Nature, problems, Importance, types (K<sub>1</sub>,K<sub>2</sub>,K<sub>3</sub>,K<sub>4</sub>)
- 5.4 Co-operation, Importance, Types, Problems (K<sub>1</sub>,K<sub>2</sub>,K<sub>3</sub>,K<sub>4</sub>)
- 5.5 Communication, Meaning, Nature, Elements of good Communication, Importance Essentials (K<sub>1</sub>,K<sub>2</sub>,K<sub>3</sub>,K<sub>4</sub>)
- 5.6 Barriers to Communication, measures to improve Communication Barriers, Feedback. (K<sub>1</sub>,K<sub>2</sub>,K<sub>3</sub>,K<sub>4</sub>)



**Text Book**

1. Dr. Gupta C.B. – Business Management - Sultan Chand & sons, New Delhi, Revised Edition 2018

**Reference Books:**

1. Prasad L.M. – Management: principles and practices – Sultan Chand & Sons, New Delhi, Revised Edition 2012.

2. Harold Koontz & Cyril O' Donnel – Principles of Management: An Analysis of Managerial

Functions – McGraw Hill Publishing Co. Ltd., New Delhi, Reprint 2012

3. Sharm Ltd., New Delhi, Reprint 2012

4. Sharma B.D., Bhallka N.S. and Gupta R.S. – Principles of Management – Kalyani Publishers,  
New Delhi, Reprint 2013

5. Kumkum Mukherjee – Principles of Management – McGraw Hill Education, New Delhi  
Reprint 2013

6. Bhushan Y.K. – Fundamentals of Business Organization and Management – Sultan Chand &  
Sons, New Delhi, Revised Edition 2013

**Web Resources:**

1. <https://www.cliffsnotes.com>

2. <https://www.open.umn.edu>

3. <https://study.com>

4. <https://www.inc.com>

5. <https://www.pearson.com>

**SEMESTER VI****UCCOQ20 - INCOME TAX LAW AND PRACTICE II**

<b>Year/ Semester</b> III/VI	<b>Course Code</b> UCCOQ20	<b>Title of the course</b> Income Tax Law and Practice II	<b>Course type</b> Theory	<b>Course category</b> Core	<b>No. of Hours</b> 6	<b>Credits</b> 5	<b>Marks</b> 40+60
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**Course Objectives:**

1. To enable the students determine the Provisions relating to Computation of Income from Capital Gains.
2. To impart the learners the skill of calculating the Income from Other Sources.
3. To familiarize with the different provisions relating to Set-off and carry forward of losses.
4. To make the students learn the importance of Computation of Total Income and Tax Liability of Individuals.
5. To gain practical knowledge on Filing of Returns of Income.

**Course Learning Outcomes(CLO):**

1. Students learnt to determine the Income from Capital Gains.
2. Students acquired the skill in calculating the Income from Other Sources.
3. Students were well versed in ascertaining the provisions relating to Clubbing of Incomes and set off and carry forward of losses.
4. Students were able to assess the total income and tax liability of individual assesseees.
5. Students gained practical knowledge on filing of returns of income.

**CO's consistency with PO'S**

<b>CO</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>
<b>1</b>	H	M	H	H	H	H
<b>2</b>	H	M	H	H	H	H
<b>3</b>	H	H	M	H	M	M
<b>4</b>	M	H	H	M	H	M
<b>5</b>	H	M	H	H	H	M

**(Low – L, Medium – M, High – H)****CO's consistency with PSO'S**

<b>CO</b>	<b>PSO1</b>	<b>PSO2</b>	<b>PSO3</b>	<b>PSO4</b>	<b>PSO5</b>	<b>PSO6</b>
<b>1</b>	H	M	H	H	H	H
<b>2</b>	H	M	H	H	H	H
<b>3</b>	H	H	M	H	M	M
<b>4</b>	M	H	H	M	H	M
<b>5</b>	H	M	H	H	H	M

(Low– L, Medium – M, High– H)

## Course Syllabus

### Unit I: Income from Capital Gains

(15 Hours)

- 1.1 Meaning of Capital assets, its exceptions and Self generated assets(K<sub>1</sub>,K<sub>2</sub>)
- 1.2 Kinds of capital assets – Short term and Long term assets(K<sub>1</sub>,K<sub>2</sub>,K<sub>3</sub>)
- 1.3 Cost of acquisition and cost of improvement under different circumstances(K<sub>1</sub>,K<sub>2</sub>,K<sub>3</sub>)
- 1.4 Computation of short term and long term gains(K<sub>1</sub>,K<sub>2</sub>,K<sub>3</sub>)
- 1.5 Capital Gains exempt from tax(K<sub>1</sub>,K<sub>2</sub>,K<sub>3</sub>)
- 1.6 Computation of capital gains including exemptions (K<sub>1</sub>,K<sub>2</sub>,K<sub>3</sub>,K<sub>4</sub>)

### Unit II: Income from Other Sources

(15 Hours)

- 2.1 Incomes chargeable under from Other Sources (K<sub>1</sub>, K<sub>2</sub>, K<sub>3</sub>)
- 2.2 Meaning of dividend and taxation of dividend (K<sub>1</sub>, K<sub>2</sub>)
- 2.3 Taxation of casual incomes (K<sub>1</sub>, K<sub>2</sub>)
- 2.4 Interest on securities and kinds of securities (K<sub>1</sub>, K<sub>2</sub>, K<sub>3</sub>)
- 2.5 Deductions allowable from Income from other Sources. (K<sub>1</sub>, K<sub>2</sub>)
- 2.6 Computation of Income from Other Source (K<sub>1</sub>, K<sub>2</sub>, K<sub>3</sub>, K<sub>4</sub>)

### Unit III: Set off and Carry forward of losses

(15 Hours)

- 3.1 Meaning of clubbing of incomes and deemed incomes(K<sub>1</sub>, K<sub>2</sub>, K<sub>3</sub>).
- 3.2 Income of Other Persons included in the Assessee's Total Income(K<sub>1</sub>, K<sub>2</sub>, K<sub>3</sub>).
- 3.3 Aggregation of incomes(K<sub>1</sub>, K<sub>2</sub>).
- 3.4 Provisions governing the set-off of losses(K<sub>1</sub>, K<sub>2</sub>).
- 3.5 Provisions regarding the carry forward and set off of losses(K<sub>1</sub>, K<sub>2</sub>, K<sub>3</sub>).
- 3.6 Computation of Gross Total Income(K<sub>1</sub>, K<sub>2</sub>, K<sub>3</sub>, K<sub>4</sub>)

### Unit IV: Assessment of Individuals

(15 Hours)

- 4.1 Deductions in respect of certain payments (K<sub>1</sub>, K<sub>2</sub>, K<sub>3</sub>)
- 4.2 Deductions in respect of certain incomes. (K<sub>1</sub>, K<sub>2</sub>, K<sub>3</sub>)
- 4.3 Computation of Deductions eligible under Sec 80C to 80U (K<sub>1</sub>, K<sub>2</sub>, K<sub>3</sub>)
- 4.4 Computation of Total Income (K<sub>1</sub>, K<sub>2</sub>, K<sub>3</sub>, K<sub>4</sub>)
- 4.5 Rates of Income Tax in case of Individuals (K<sub>1</sub>, K<sub>2</sub>)
- 4.6 Computation of Tax Liability of Individuals (K<sub>1</sub>, K<sub>2</sub>, K<sub>3</sub>, K<sub>4</sub>)

### Unit V: Preparation of Filing of Returns and Payment of Tax

(15 Hours)

- 5.1 Preparation and Filing of Returns – E- Filing (K<sub>1</sub>, K<sub>2</sub>, K<sub>3</sub>, K<sub>4</sub>)
- 5.2 Deduction and Collection of Tax at Source (TDS) (K<sub>1</sub>, K<sub>2</sub>, K<sub>3</sub>)
- 5.3 Advance Payment of Tax (K<sub>1</sub>, K<sub>2</sub>, K<sub>3</sub>, K<sub>4</sub>)
- 5.4 Recovery of Tax (K<sub>1</sub>, K<sub>2</sub>, K<sub>3</sub>, K<sub>4</sub>)
- 5.5 Refund of Tax (K<sub>1</sub>, K<sub>2</sub>, K<sub>3</sub>, K<sub>4</sub>)
- 5.6 Appeals and Revision (K<sub>1</sub>, K<sub>2</sub>, K<sub>3</sub>, K<sub>4</sub>)

**Text Books:**

Dr. Mehrotra H.C. and Goyal S.P – Income Tax Law & Practice - Sahitya Bhawan Publications, Agra, (Relevant Edition)

**Reference Books**

1. Vinod. K. Singhania – Students Guide to Income Tax – Tax man Publications Pvt. Ltd., New Delhi (Relevant Edition)
2. Gaur V.P. and Narang D.B. – Income Tax – Kalyani Publishers, New Delhi (Relevant Edition)
3. Reddy T.S. and Hari Prasad Reddy Y. – Income Tax – Margham Publications, Chennai (Relevant Edition)
4. Hariharan N. – Income Tax Law and Practice – McGrawHill, New Delhi, Reprint(Relevant Edition)

**Web Resources:**

1. IRS.gov
2. E-file Colorado taxes with Revenue Online
3. DABC Free Tax Supersites
4. AARP Tax-Aide
5. Federal: [www.irs.gov](http://www.irs.gov)
6. Missouri:  
[www.dor.mo.gov/forms/Other](http://www.dor.mo.gov/forms/Other) States:
7. [www.taxadmin.org/state-tax-forms](http://www.taxadmin.org/state-tax-forms)
8. Affordable Care Act(ACA)  
Tax Provisions – IRS
9. <https://books.google.co.in>
10. <https://www.incometaxindia.gov.in>
11. <https://www.incometaxindiaefiling.gov.in>
12. <https://www.denverlibrary.org>

## SEMESTER I / II

### USCOA120/USCOA220 - CONSUMER AWARENESS

Year/ Semester I/II	Course Code USCOA120/ USCOA220	Title of the course Consumer Awareness	Course type Theory	Course category Skill Based Elective	No. of Hours 2	Credits 2	Marks 40+60
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#### Course Objectives

1. To create awareness among the students with regard to consumer movement.
2. To enable the students learn the rights of consumer.
3. To analyse the methods of handling grievances and its redressal measures.
4. To impart them the procedure for filing complaint.
5. To learn ways and means in safeguarding the rights of consumers.

#### Course Learning Outcomes(CLO)

1. Students gain an insight knowledge on consumer awareness movement and FSSAI 2006.
2. Students were familiarised with the rights of consumers.
3. Students gained thorough knowledge in handling grievances and its redressal measures.
4. Students were well versed in filing the complaints and appeals.
5. Students gained conceptual knowledge on the social responsibilities of the consumers.

#### COs consistency with POs

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
1	H	M	H	M	H	H
2	H	M	H	H	H	H
3	H	M	H	H	M	H
4	H	H	H	H	M	H
5	H	H	H	H	H	H

Low – L, Medium – M, High - H

#### COs consistency with PSOs

CO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
1	M	H	L	M	M	M
2	H	H	M	L	H	M
3	H	M	M	M	M	M
4	H	M	M	M	H	H
5	M	M	M	H	H	M

Low – L, Medium – M, High - H

## **Course Syllabus**

### **Unit I: Consumer protection Act**

**(6 Hours)**

- 1.1 Gandhiji's Quote - Brief History (K<sub>1</sub>,K<sub>2</sub>)
- 1.2 Consumer Protection Act,1986 (K<sub>1</sub>,K<sub>2</sub>)
- 1.3 Rights of Consumer (K<sub>1</sub>,K<sub>2</sub>)
- 1.4 United Nations Guidelines (K<sub>1</sub>,K<sub>2</sub>)
- 1.5 Responsibility of consumers (K<sub>1</sub>,K<sub>2</sub>)
- 1.6 Standard Certification Marks(K<sub>1</sub>,K<sub>2</sub>)

### **Unit II: Right to Information Act**

**(6 Hours)**

- 2.1 Meaning of Brand name, label, Package & Trade Mark (K<sub>1</sub>,K<sub>2</sub>)
- 2.2 Advertisements, print and Electronic Media (K<sub>1</sub>,K<sub>2</sub>)
- 2.3 Official records and citizen charter (K<sub>1</sub>,K<sub>2</sub>)
- 2.4 Meaning of right to Choose (K<sub>1</sub>,K<sub>2</sub>)
- 2.5 Platforms for consumer representation (K<sub>1</sub>,K<sub>2</sub>)
- 2.6 Consumer Protection Councils (K<sub>1</sub>,K<sub>2</sub>)

### **Unit III: Right to Redressal – 1**

**(6 Hours)**

- 3.1 Types of Grievances (K<sub>1</sub>,K<sub>2</sub>)
- 3.2 Remedies available under the Consumer Protection (K<sub>1</sub>,K<sub>2</sub>)
- 3.3 Restrictive Trade Practice Act,1986 (K<sub>1</sub>,K<sub>2</sub>)
- 3.4 Unfair Trade Practice (K<sub>1</sub>,K<sub>2</sub>)
- 3.5 Pre-packed goods and unfair trade practices (K<sub>1</sub>,K<sub>2</sub>)
- 3.6 Advertising Standards Council of India(K<sub>1</sub>,K<sub>2</sub>)

### **Unit IV: Right to Redressal – II**

**(6 Hours)**

- 4.1 Definitions; goods, services, Consumer of Goods, consumer of Services, Complaint, complainant, consumer dispute, defect, deficiency, Appropriate laboratory, manufacturer (K<sub>1</sub>,K<sub>2</sub>)
- 4.2 Filing a complaint (K<sub>1</sub>,K<sub>2</sub>)
- 4.3 Procedure on receipt of complaint (K<sub>1</sub>,K<sub>2</sub>, K<sub>3</sub>)
- 4.4 Appeals (K<sub>1</sub>,K<sub>2</sub>,K<sub>3</sub>)
- 4.5 District Forum, State Commission and National Commission (K<sub>1</sub>,K<sub>2</sub>)
- 4.6 Composition, Appointment, Term of office (K<sub>1</sub>,K<sub>2</sub>)

### **Unit V: Consumer Responsibilities and Case laws and other tips**

**(6 Hours)**

- 5.1 Responsibilities (K<sub>1</sub>, K<sub>2</sub>)
- 5.2 Critical Awareness – Social Responsibility (K<sub>1</sub>, K<sub>2</sub>)
- 5.3 Environmental Awareness (K<sub>1</sub>, K<sub>2</sub>)
- 5.4 Solidarity (K<sub>1</sub>, K<sub>2</sub>)
- 5.5 Responsibilities in association with all the Rights (K<sub>1</sub>, K<sub>2</sub>)
- 5.6 Leading Case Laws (K<sub>1</sub>, K<sub>2</sub>)

**Reference Book:**

1. E-books available in the FSSAI website like Dart, Pink, Yellow and Orange books
2. Newsletters (quarterly publications) of State Consumer Knowledge Helpline Knowledge Resource Management Portal (SCHKRMP)
3. "Nugarvor Kavasam" a publication by the Department of Civil Supplies and Consumer

**Web Resources:**

[www.consumer.tn.gov.in](http://www.consumer.tn.gov.in)

[www.consumeradvice.in](http://www.consumeradvice.in)

**SEMESTER – I****UCBCA20 - BIOORGANIC CHEMISTRY**

<b>Year/ Sem</b> I	<b>Course Code</b> UCBCA20	<b>Title of the Course</b> Bioorganic Chemistry	<b>Course Type</b> Theory	<b>Course Category</b> Core	<b>H/W</b> 6	<b>Credits</b> 5	<b>Marks</b> 100 40+60=100
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**Objectives:**

To provide a clear note on the bioorganic compounds.

**Course Outcomes (CO)**

On completion of the course, the students will be able to;

1. Outline the structure, properties and biological importance of carbohydrates.
2. Classify the structure and functions of amino acids along with proteins.
3. Build an idea about the role of lipids in the living system.
4. Assess the structural features of genetic material.
5. Explain the crucial role of vitamins and minerals for maintaining healthy life.

<b>CO / PO</b>	<b>PO 1</b>	<b>PO 2</b>	<b>PO 3</b>	<b>PO 4</b>	<b>PO 5</b>	<b>PO 6</b>
<b>CO 1</b>	H	M	L	L	L	H
<b>CO 2</b>	H	M	M	M	H	M
<b>CO 3</b>	H	H	H	M	M	M
<b>CO 4</b>	H	M	H	M	H	H
<b>CO 5</b>	H	M	H	M	M	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

<b>CO / PSO</b>	<b>PSO 1</b>	<b>PSO 2</b>	<b>PSO 3</b>	<b>PSO 4</b>	<b>PSO 5</b>	<b>PSO 6</b>
<b>CO 1</b>	H	H	M	L	M	H
<b>CO 2</b>	H	M	M	M	H	M
<b>CO 3</b>	H	H	H	M	M	M
<b>CO 4</b>	H	M	H	M	H	L
<b>CO 5</b>	H	M	H	M	M	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

**Unit I:****(18 hours)**

- 1.1 Carbohydrates: Occurrence and Structure of Carbohydrates (K1, K2, K3)
- 1.2 Classification of Carbohydrates (K1, K2, K3)
- 1.3 Physical and chemical properties of Glucose and Fructose (Oxidation, Reduction and Phenylhydrazine reaction), Isomerism of monosaccharides (K1, K2, K3, K4)
- 1.4 Biological importance of Monosaccharides (Glucose and Fructose) (K1, K2, K3, K4)
- 1.5 Disaccharides (Maltose, Lactose, Sucrose) (K1, K2, K3)
- 1.6 Polysaccharides (Starch, Glycogen, Cellulose) and Mucopolysaccharides. (K1, K2, K3)



**Unit II: (18 hours)**

- 2.1 Amino Acids: Structure of naturally occurring and non-protein amino acids (K1, K2, K3, K4)
- 2.2 Classification of amino acids based on structure, number of amino and carboxylic groups, nutrition and polarity of side chain (K1, K2, K3, K4)
- 2.3 Physical properties - Chemical properties - Structure of Peptide bond (K1, K2, K3)
- 2.4 Classification of proteins - Primary Structure - Secondary structure- Tertiary structure - Quaternary structure - Various forces stabilizing the structures (K1, K2, K3, K4)
- 2.5 Biologically important peptides - Glutathione (K1, K2, K3)
- 2.6 Biologically important peptide hormones- Insulin, Vasopressin, Oxytocin (Structure and functions). (K1, K2, K3)

**Unit III: (18 hours)**

- 3.1 Lipids- Structure of fatty acids and Classification of fatty acids (K1, K2, K3, K4)
- 3.2 Functions of lipids and fatty acids (K1, K2, K3)
- 3.3 Classification of lipids: Simple, Compound lipids, Derived lipids (K1, K2, K3, K4)
- 3.4 Sterols (Cholesterol, Ergosterol - structure and functions) (K1, K2, K3, K4)
- 3.5 Characteristics of lipids - Iodine number, acid number, Saponification number, Reichert - Meissl number (K1, K2, K3)
- 3.6 Properties of lipids- Physical and Chemical properties. (K1, K2, K3)

**Unit IV: (18 hours)**

- 4.1 Nucleic Acids: Structure of Purine and Pyrimidines (K1, K2, K3)
- 4.2 Nucleosides and Nucleotides (K1, K2, K3, K4)
- 4.3 Structure and forms of DNA (A, B, Z) (K1, K2, K3)
- 4.4 Properties-Denaturation, T<sub>m</sub>, Hypo and Hyperchromicity, Cot value (K1, K2, K3, K4)
- 4.5 Renaturation, Hybridization (K1, K2, K3, K4)
- 4.6 Structure and types of RNA - rRNA, tRNA, mRNA and SnRNA- Functions of RNA. (K1, K2, K3, K4)

**Unit V: (18 hours)**

- 5.1 Vitamins: Classification of vitamins (K1, K2, K3, K4)
- 5.2 Fat soluble vitamins- Sources, RDA, Biochemical functions and Deficiency diseases (A, D, E, K) (K1, K2, K3)
- 5.3 Water soluble vitamin B-complex (vitamin B<sub>1</sub>, B<sub>2</sub>, B<sub>5</sub>, B<sub>6</sub> and B<sub>12</sub>) (Structure not required) (K1, K2, K4)
- 5.4 Water soluble vitamin non-B complex (vitamin C) (K1, K2, K3)
- 5.5 Minerals: Iron, Calcium, Sodium, Potassium (K1, K2, K3)
- 5.6 Microelements: Copper, Iodine and Zinc. (K1, K2, K3)

[Knowledge Level: K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyse]

**Text Books:**

1. Satyanarayana U - Textbook of Biochemistry - Books and Allied Pvt Ltd, 2<sup>nd</sup> edition, 2005
2. Martin David W, Harper, Harold A - Harper's review of Biochemistry- 31<sup>st</sup>edition, 2018

**Reference Book:**

1. West, Todd, Mason, Vanbruggen - Textbook of Biochemistry. - Oxford Publishers, - 4<sup>th</sup>edition, 2000.
2. Chatterjea M N - Textbook of Medical Biochemistry. R S Jaypee Publications, 7<sup>th</sup> edition, 2007.
3. Lehninger D Nelson and Cox - Principles of Biochemistry. WH Freeman and Company Ltd, 4<sup>th</sup> edition, 2005.
4. Gurdeep Chatwal - Organic Chemistry of Natural Products. Himalaya Publishing House, Vol I, 2<sup>nd</sup> edition, 2003.
5. Donald Voet and Judith G Voet – Biochemistry. VP and Publisher Kaye Pace Associate Publisher, 4<sup>th</sup> edition, 2011.

**Open Educational Resources (OER):**

1. <https://youtu.be/JxK5rZxbyQY>
2. <https://youtu.be/NfMZLk-8r34>
3. <https://youtu.be/GVWBcEv1bgk>
4. <https://youtu.be/0lZRAShqft0>
5. [https://youtu.be/qmUtK\\_Rf7iY](https://youtu.be/qmUtK_Rf7iY)

## SEMESTER I & II

### UCBCC20 MAIN PRACTICAL – I

<b>Year: I</b> <b>Sem: I/II</b>	<b>Course Code:</b> UCBCC20	<b>Title of the Course:</b> Main Practical - I	<b>Course Type:</b> Practical	<b>Course Category</b> : Core	<b>H/W</b> 4	<b>Credits</b> 4	<b>Marks</b> 100
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#### Objective:

To provide a wide practical knowledge on Qualitative and Quantitative Analysis.

#### Course Outcomes (CO):

On the completion of the course, the students will be able to;

1. Apply the safety rules in the laboratory
2. Use the measuring technique to weigh the compounds
3. Analyses quantitatively the biomolecules and mineral components
4. Identify the carbohydrate and amino acids qualitatively
5. Explain the idea on the cell division process

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	H	H	M	H	H
CO 2	H	H	H	H	H	H
CO 3	H	H	H	H	H	H
CO 4	H	H	H	M	H	H
CO 5	H	H	H	M	H	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	H	M	M	H
CO 2	H	H	H	H	L	H
CO 3	H	M	H	H	M	H
CO 4	H	H	H	M	H	M
CO 5	H	H	H	M	H	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

## **1. Safety Measures In The Laboratory-I**

### **2. Balance**

Physical Balance, Electronic Balance, Analytical Balance, Weight Box, Types of error

### **3. Volumetric Analysis**

1. Estimation of Glucose by Benedict's method
2. Estimation of Glycine by Sorenson's method
3. Estimation of Ascorbic acid using 2,6 Dichlorophenol indophenol
4. Estimation of Nitrite using sodium hydroxide
5. Estimation of Iron using potassium permanganate
6. Estimation of Copper
7. Estimation of Hydrogen peroxide using potassium permanganate
8. Estimation of Calcium in milk
9. Estimation of Chloride by Mohr's method
10. Acid number of oils
11. Iodine number of edible oils
12. Saponification number of lipids

### **4. Qualitative Analysis**

1. Carbohydrates: Glucose, Fructose, Galactose, Lactose, Maltose, Sucrose, Starch
2. Amino acids: Tyrosine, Tryptophan, Arginine, Cysteine, Methionine, Proline

### **5. Cell Biology**

1. Mitosis in onion root tip
2. Identification of plant and animal cell
3. Meiosis in Flower

### **Reference Books:**

1. Jayaraman J - Manuals in Biochemistry - New Age International Publishers, 2011
2. Varley, Alan, Gowen lock - Practical Biochemistry, CBS Publishers 6<sup>th</sup> edition, 2002
3. David T Plummer - Practical Biochemistry. McGraw Hill Publishers, 3<sup>rd</sup> edition, 2005
4. Sawhney SK and Randhir Singh - Introductory Practical Biochemistry. Narosa Publishers, 2<sup>nd</sup> edition - 2001
5. Sadhana Sharma and Reema Sharma - Practical Manual of Biochemistry. Medtec publication, 1<sup>st</sup> edition, 2016

**SEMESTER – II**  
**UCBCB20 CELL BIOLOGY**

Year/ Sem I/ II	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks 100 40+60=100
	UCBCB20	Cell Biology	Theory	Core	6	5	

**Objective:**

To provide a deep knowledge about cell – the basic unit of life.

**Course Outcomes (CO)**

On completion of the course, the students will be able to;

1. Describe cell as the basic unit of life, its structural organization and cytoskeleton
2. Develop knowledge about the functions of various subcellular organelles
3. Identify the type of cell division processes and its significance
4. Recall on the components of cell membrane and its role in maintaining cell function
5. Examine clearly about the mechanism of transport across the membrane

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	M	M	M	L	M
CO 2	H	H	M	M	L	H
CO 3	H	H	H	H	M	L
CO 4	H	H	H	M	M	M
CO 5	H	H	H	H	M	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	M	M	L	L	H
CO 2	H	M	M	M	L	M
CO 3	H	H	H	L	M	M
CO 4	H	M	H	M	H	H
CO 5	H	M	H	M	M	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

**Unit I:**

**(18 hours)**

- 1.1 An overall view of cells- origin-evolution of cells- Cell theory (K1, K2, K3)
- 1.2 Cell organization: Types of cell - Structural organization of Prokaryotic (*E.coli*) and Eukaryotic cells (Animal and plant cell) (K1, K2, K3, K4)
- 1.3 Comparison between plant cell and animal cell structure (K1, K2, K3, K4)
- 1.4 Virus cell structure: T4 Bacteriophage, Corona virus (K1, K2, K3)
- 1.5 An overview of molecular organization of cells - Microfilaments (Actin and Intermediary filament), Microtubules, Centrioles, Basal bodies, Cilia, flagella (K1, K2, K3)
- 1.6 Structure and function of TMV (Tobacco Mosaic Virus). (K1, K2, K3)

**Unit II:**

**(18 hours)**

- 2.1 Components and functions of Organelles: Structure and functions of Mitochondria (K1, K2, K3, K4)

- 2.2 Endoplasmic reticulum- Rough and Smooth endoplasmic reticulum (K1, K2, K3, K4)
- 2.3 Structure and functions of Ribosomes (K1, K2, K3)
- 2.4 Structure and functions of Golgi apparatus (K1, K2, K3)
- 2.5 Structure and functions of Lysosomes – Chloroplast (K1, K2, K3)
- 2.6 Structure and functions of Peroxisomes and Glyoxysomes (K1, K2, K3)

**Unit III: (18 hours)**

- 3.1 Nucleus: Nuclear membrane, nucleolus, nuclear pore and annulus (K1, K2, K3)
- 3.2 Structure of chromosomes (K1, K2, K3, K4)
- 3.3 Functions of chromosomes (K1, K2, K3, K4)
- 3.4 Materials of chromosomes (K1, K2, K3, K4)
- 3.5 Cell cycle – Overview - Cell Division - Mitosis (K1, K2, K3, K4)
- 3.6 Cell Division- Meiosis I & II. (K1, K2, K3, K4)

**Unit IV: (18 hours)**

- 4.1 Cell membrane: Molecular organization of animal cell membrane (K1, K2, K3, K4)
- 4.2 Membrane lipids, proteins and carbohydrates (K1, K2, K3, K4)
- 4.3 The Fluid Mosaic Model and artificial membranes (K1, K2, K3, K4)
- 4.4 Structure of Mitochondrial membrane (K1, K2, K3)
- 4.5 Structure of Red cell membrane (K1, K2, K3)
- 4.6 Cell wall: Components and role of cell wall. (K1, K2, K3)

**Unit V: (18 hours)**

- 5.1 Membrane functions: Cell permeability, Ion selective channels (Uniport, Antiport, Symport with example) and carriers (K1, K2, K3, K4)
- 5.2 Transport processes, Diffusion, Facilitated diffusion (K1, K2, K3, K4)
- 5.3 Active transport proteins ( $\text{Na}^+$ - $\text{K}^+$  ATPase), Ionophores (K1, K2, K3)
- 5.4 Types of cell junctions: Gap junction and tight junctions (K1, K2)
- 5.5 Cell-Cell communication (Belt and Spot desmosomes) (K1, K2, K3)
- 5.6 Cell adhesion proteins: Integrin, Cadherin and selectin. (K1, K2, K3)

**[Knowledge Level: K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze]**

**Text Books:**

- 1. Powar CB - Cell Biology - Himalaya Publishing House, 2010
- 2. Arumugam N - Cell Biology - Saras Publication, 2014

**Reference Books:**

- 1. Dalela A Verma - Text book of Cytology- Jai Prakash Nath and Co, 2000
- 2. De Robertis - Cell and Molecular Biology. Lippincott Williams, 8<sup>th</sup> edition -, 2017
- 3. Verma S and Agarwal V K - Cell Biology, Genetics, Molecular Biology, Evolution and Ecology - S Chand and Company Ltd, 2005
- 4. Becker and Hardin- The World of Cell. Academic Internet Publishers. 9<sup>th</sup> edition, 2016
- 5. Harvey Lodish. Molecular Cell Biology. WH Freeman, 8<sup>th</sup> edition, 2016

**Open Educational Resources (OER):**

- 1. <https://youtu.be/7X2a2Vwboek>
- 2. <https://youtu.be/1Z9pqST72is>
- 3. <https://youtu.be/DwAFZb8juMQ>
- 4. <https://youtu.be/LXaPt9i9hqk>
- 5. <https://youtu.be/Ptmlvtei8hw>

## SEMESTER III

### UCBCD20 - BIOCHEMICAL TECHNIQUES

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
II / III	UCBCD20	Biochemical Techniques	Theory	Core	7	5	40+60=100

#### Objective:

To study about the principles and applications of biochemical techniques.

#### Course Outcomes (CO)

On completion of the course, the students will be able to;

1. Develop the ability to apply the principles of biochemical techniques
2. Compare the difference between various methods of chromatography
3. Explain how electrophoresis and centrifugation facilitates the separation of molecules
4. Analyse certain functionalities of bio molecules by using spectroscopic techniques
5. Compare natural and artificial radiation source and its importance

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	H	H	H	H	M
CO 2	H	H	H	H	M	M
CO 3	H	H	H	H	M	M
CO 4	H	H	H	H	M	M
CO 5	H	H	H	H	H	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	H	H	H	M
CO 2	H	H	H	H	M	M
CO 3	H	H	H	H	M	M
CO 4	H	H	H	H	M	M
CO 5	H	H	H	H	H	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

#### Unit I:

(15 hours)

- 1.1 Expression of the concentration of solutes in solutions: Normality, Molarity, Molality, Mass concentration- Osmole- Acids, Bases, Buffers and pH (Definition and examples) (K1, K2, K3, K4)

- 1.2 Buffer system of the body – Henderson equation - Osmosis, Isotonic- Hypo and Hypertonic, Osmotic Pressure (VantHoff's Law) (K1, K2, K3, K4)
- 1.3 Surface tension and Viscosity: Biological importance (K1, K2, K3, K4)
- 1.4 pH Electrode (Hydrogen and Glass): Instrumentation, operation and application. (K1, K2, K3, K4)
- 1.5 Clark Oxygen Electrode: Instrumentation, operation and application. (K1, K2, K3, K4)
- 1.6 Colloids: Definition - Types and Application (K1, K2, K3)

**Unit II: (15 hours)**

- 2.1 Chromatography – General Principles- Paper and TLC: Principle, instrumentation, operation and applications. (K1, K2, K3, K4)
- 2.2 Affinity chromatography: Principle, instrumentation, operation and applications. (K1, K2, K3, K4)
- 2.3 Ion-exchange chromatography: Principle, instrumentation, operation and applications. (K1, K2, K3, K4)
- 2.4 Molecular sieve chromatography: Principle, instrumentation, operation and applications. (K1, K2, K3, K4)
- 2.5 Gas chromatography: Principle, instrumentation, operation and applications (K1, K2, K3, K4)
- 2.6 HPLC: Principle, instrumentation, operation and applications. (K1, K2, K3, K4)

**Unit III: (15 hours)**

- 3.1 Electrophoresis- General Principles -Factors affecting electrophoretic mobility - Paper, Agarose and Starch Electrophoresis: Principle, instrumentation, operation and applications. (K1, K2, K3, K4)
- 3.2 SDS-PAGE: Principle, instrumentation, operation and applications. (K1, K2, K3, K4)
- 3.3 Isoelectric focusing and Capillary electrophoresis: Principle, instrumentation, operation and applications. (K1, K2, K3, K4)
- 3.4 Centrifugation: Svedberg unit- Basic principle of centrifugation. (K1, K2)
- 3.5 Types of Centrifuges and Rotors (K1, K2)
- 3.6 Preparative and Analytical Ultra Centrifuges: Instrumentations and applications (Cell fractionation) (K1, K2, K3, K4)

**Unit IV: (15 hours)**

- 4.1 Spectroscopy: Fundamental principles of spectroscopy - Basic laws of absorption - Beer-Lambert's law - Principle and applications of Colorimetry (K1, K2, K3)
- 4.2 Ultra violet – Visible (UV-VIS) Spectrophotometry: Principle, instrumentation, operation and applications (K1, K2, K3, K4)
- 4.3 Infra-Red (IR) Spectrophotometry: Principle, instrumentation, operation and applications (K1, K2, K3, K4)
- 4.4 Fluorimetry: Principle, instrumentation, operation and applications. (K1, K2, K3, K4)
- 4.5 Atomic absorption spectrometry (AAS): Principle, instrumentation, operation and applications. (K1, K2, K3, K4)



4.6 Flame Emission Spectroscopy (FES): Principle, instrumentation, operation and applications. (K1, K2, K3, K4)

**Unit V :**

**( 15 hours)**

- 5.1 Radio isotopic Techniques: Radioisotopes- Stable and Unstable, Units of Radioactivity, Types of Radioactivity (K1, K2, K3, K4)
- 5.2 Detection and measurement of radioactivity: Based on Gas ionization (K1, K2, K3, K4)
- 5.3 Detection and measurement of radioactivity: Based on Autoradiography (K1,K2 K3, K4)
- 5.4 Detection and measurement of radioactivity(Method based on excitation)(K1,K2,K3, K4)
- 5.5 Application of radioisotopes in biological science: (Isotope dilution technique, metabolic studies, radio dating) (K1, K2, K3)
- 5.6 Radiation hazards and safety aspects (K1, K2, K3)

**[Knowledge Level: K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyse]**

**Text Books:**

- 1. Keith Wilson and John Walker - Principles and Techniques of Practical biochemistry - 5<sup>th</sup> edition - Cambridge University,2005
- 2. Upadhyay, Upadhyay and Nath - Biophysical Chemistry: Principles and Techniques - 2<sup>nd</sup> edition - Himalaya Publishing House,2009

**Reference Books:**

- 1. Chatwal Anand - Instrumental methods of Analysis - Himalaya Publishing House,2011
- 2. Galen Wood Ewing - Instrumental methods of Chemical Analysis - 5th edition - McGraw Hill College
- 3. Robert D Braun - Introduction to Instrumental Analysis - Pharma Book Syndicate,2006
- 4. David Freifelder - Physical Biochemistry - 2nd edition - WH Freeman
- 5. Shawney SK and Randhir Singh - Practical Biochemistry - 2nd edition - Alpha Science,2005

**OPEN EDUCATIONAL RESOURCES (OER):**

- 1. <https://youtu.be/y7zblEaPAs>
- 2. <https://youtu.be/eCj0cRtJvJg>
- 3. [https://youtu.be/i\\_6y6Z5UvwE](https://youtu.be/i_6y6Z5UvwE)
- 4. <https://youtu.be/A9wmCsMiy70>
- 5. <https://youtu.be/QPHo5IFWgT0>
- 6. <https://youtu.be/VTHQYjkCqV0>
- 7. <https://youtu.be/A8EEH5Fyc8k>

## SEMESTER IV

### UCBCE20 – PHYSIOLOGY AND NUTRITION

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
II / IV	UCBCE20	Physiology and Nutrition	Theory	Core	5	5	40+60=100

**Objectives:** To understand the homeostatic mechanism of each organ.

#### Course Outcomes (CO)

On completion of the course, the students will be able to;

1. Outline the mechanism of breathing and the circulatory system
2. Describe the basic components and functions of the digestive system
3. Compile the functions of the urinary system and the physiology of muscle
4. Explain the central and peripheral nervous system organization
5. Identify the nutrients in food and their functions in maintaining health

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	M	H	L	M	M
CO 2	H	M	H	L	M	M
CO 3	H	M	H	L	M	M
CO 4	H	M	H	L	M	M
CO 5	H	H	H	M	M	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	M	H	L	M	M
CO 2	H	M	H	L	M	M
CO 3	H	M	H	L	M	M
CO 4	H	M	H	L	M	M
CO 5	H	H	H	M	M	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

**Unit I:** **(15 hours)**

- 1.1 Respiratory system: Overview of respiratory system (K1, K2)
- 1.2 Exchange of Gases (K1, K2)
- 1.3 Circulation: Blood composition and Functions - Types of Blood cells –  
Morphology and Function (K1, K2)

- 1.4 ABO Blood Groups - Blood Coagulation (K1, K2)
- 1.5 Structure of Heart and Blood vessels (K1, K2)
- 1.6 Cardiac cycles - Blood pressure (Diastolic, Systolic and Normal Blood pressure) Normal ECG curve (K1, K2, K3)

**Unit II: (15 hours)**

- 2.1 Digestive System: Structure and function of different components of digestive system (K1, K2)
- 2.2 Carbohydrates: Digestion, Absorption and Nutritional significance (K1, K2, K3)
- 2.3 Lipids: Digestion, Absorption and Nutritional significance (K1, K2, K3)
- 2.4 Proteins: Digestion, Absorption and Nutritional significance (K1, K2, K3)
- 2.5 Role of Bile salts in Digestion and Absorption (K1, K2, K3)
- 2.6 Mechanism of HCl and Gastric juice formation in stomach (K1, K2, K3)

**Unit III: (15 hours)**

- 3.1 Excretory System: Structure of Kidney and Nephron - Composition of Urine (K1, K2)
- 3.2 Formation of Urine – Filtration, Active and passive transport of various substances and Secretion. (K1, K2, K3)
- 3.3 Muscle: Types of Muscle - Structure of Skeletal Muscle (K1, K2)
- 3.4 Mechanism of Muscle Contraction (K1, K2, K3)
- 3.5 Male reproductive system (K1, K2)
- 3.6 Female reproductive system (K1, K2)

**Unit IV: (15 hours)**

- 4.1 Nervous System: Brief outline of Nervous system – Nerve fibres (K1, K2)
- 4.2 Structure of Brain and Spinal Cord (K1, K2)
- 4.3 Synapses – Nerve Impulse – Action potential, Membrane potential, Types and Mechanism – Neurotransmitters (K1, K2, K3)
- 4.4 Composition and functions of CSF and Lymph (K1, K2, K3)
- 4.5 Eye: Structure and functions (K1, K2, K3)
- 4.6 Ear: Structure and functions (K1, K2, K3)

**Unit V: (15 hours)**

- 5.1 Nutrition: Nutrients - Balanced diet –Nutritional status - Food groups (K1, K2, K3)
- 5.2 Calorific value of food- Bomb calorimeter (K1, K2, K3, K4)
- 5.3 RQ: Definition and Measurement (K1, K2, K3, K4)

5.4 SDA: Definition and Measurement (K1, K2, K3, K4)

5.5 BMR: Definition and Measurement (K1, K2, K3, K4)

5.6 Adverse effects of Fast foods -Brief outline on the common adulterants in food (K1, K2)

**[Knowledge Level: K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze]**

**Text Books:**

1. Ross, Wilson – Anatomy and Physiology in Health and illness – 13<sup>th</sup> edition – Elsevier, 2018
2. Swaminathan MS – Principles of Nutrition – Bappco publishers,2010

**Reference Books:**

1. Ganong – Review of Medical Physiology- 25<sup>th</sup> Edition – McGraw – Hill Education,2016
2. Davidson and Passmore – Human Nutrition and Dietetics – 8<sup>th</sup> edition – Churchill Livingstone
3. Skilis ME and Young VR – Modern Nutrition and Health Diseases, 2004
4. Chatterjee CC – Human Physiology- 11<sup>th</sup> edition - CBS publishers, 2019
5. Guyton and Hall – Textbook of Medical Physiology – 13<sup>th</sup> edition – 2016 Elsevier

**Open Educational Resources (OER)**

1. <https://youtu.be/XOGn4IKjcl8>
2. <https://youtu.be/kacMYexDgHg>
3. [https://youtu.be/\\_qmNCJxpsr0](https://youtu.be/_qmNCJxpsr0)
4. <https://www.youtube.com/watch?v=Og5xAdC8EUI>
5. <https://youtu.be/zVzgswdRRHA>
6. <https://www.youtube.com/watch?v=ousflrOzQHc>
7. <https://youtu.be/R5myMWxKD4k>
8. <https://youtu.be/YdlTLuweXv8>

## SEMESTER III & IV

### UCBCF20 MAIN PRACTICAL - II

<b>Year/ Sem</b> II / IV	<b>Course Code</b> UCBCF20	<b>Title of the Course</b> Main Practical - II	<b>Course Type</b> Practical	<b>Course Category</b> Core	<b>H/ W</b> 3	<b>Credits</b> 5	<b>Marks</b> 40+60=100
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#### Objective:

To inculcate practical skill in biochemistry.

#### Course Outcomes (CO)

On completion of the course, the students will be able to;

1. Work safely and effectively in a laboratory
2. Implement experimental protocol, and adapt them to plan and carry out simple colorimetric estimation
3. Explain the basic principles involved in isolation of bio molecules from various source
4. Analyse, interpret and report the results of their biochemical experiments

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	H	H	H	M	M
CO 2	H	H	H	H	M	M
CO 3	H	H	L	H	M	M
CO 4	H	H	H	H	M	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	H	H	M	M
CO 2	H	H	H	H	M	M
CO 3	H	H	L	H	M	M
CO 4	H	H	H	H	M	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

#### 1. Safety Measures In The Laboratory – II

#### 2. Colorimetric Estimation:

1. Estimation of Carbohydrate by Anthrone method
2. Estimation of Fructose by Resorcinol method
3. Estimation of Protein by Biuret method

4. Estimation of Amino acids by Ninhydrin method
5. Estimation of Ascorbic acid
6. Estimation of Iron
7. Estimation of Inorganic phosphorous by Fiske & Subbarow method
8. Estimation of Tryptophan

### **3. Preparations:**

1. Preparation of Starch from potatoes
2. Preparation of Casein from Milk
3. Preparation of Lactalbumin from Milk
4. Preparation of Lecithin from egg yolk
5. Preparation of Albumin from Egg
6. Buffers: Phosphate Buffer, Citrate Buffer, Bicarbonate buffer and Tris buffer
7. Sols and Colloids

### **4. Biochemical Techniques:**

1. Paper Chromatography
2. Thin Layer Chromatography
3. Determination of pH of Saliva/ Urine
4. Agarose gel electrophoresis (Demonstration)
5. SDS - PAGE electrophoresis (Demonstration)

### **Reference Books:**

1. Jayaraman J - Manuals in Biochemistry - 4th edition - New Age International Publishers,2011
2. Varley and Alan H Gowen lock - Practical Biochemistry -6th edition - CBS Publishers,2002
3. David T Plummer - Practical Biochemistry - 3rd edition - McGraw Hill Publishers, 2005
4. Sawhney SK and Randhir Singh - Introductory Practical Biochemistry - 2nd edition - Narosa Publishers,2001
5. Praful B Godkar - Text book of Medical Laboratory Technology- 3rd edition - Volume I &II, Bhalani Publishing House,2014

## SEMESTER IV– SKILL BASED ELECTIVE -II YEARS

### USBCBn20- SBE: HEALTH CARE FOR WOMEN

Year / Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
II/IV	USBCBn20	Health Care for Women	Theory	Skill Based Elective - II	2	2	40+60=100

#### Objective:

To provide awareness about common health problems of women and how to overcome certain diseases

#### Course Outcomes (CO)

On completion of the course, the students will be able to;

1. Understand the common health problems of women
2. Describe the function of Estrogen and Progesterone hormone
3. Outline the Stages of women hood
4. Discuss the types of anemia and obesity
5. Gain knowledge to overcome PCOS, Ovarian cancer and Depression

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	H	H	H	M	L
CO 2	H	H	H	H	H	M
CO 3	H	H	M	L	H	H
CO 4	H	M	H	M	H	H
CO 5	H	H	M	H	M	L
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	H	H	M	H
CO 2	H	H	H	H	H	M
CO 3	H	H	M	M	L	L
CO 4	H	M	H	M	H	H
CO 5	H	H	M	H	M	L
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

#### Unit - I:

**(6 Hours)**

- 1.1 Introduction-Women's health-Importance, Healthy tips for women (K4)
- 1.2 Healthy diet for Women – Physiology of Exercise – Importance of yoga (K3)
- 1.3 Preventive care and screenings (K2, K3)
- 1.4 Women and Drug abuse (K3)
- 1.5 Feminism and women's health movement (K2, K4)
- 1.6 Factors influencing women's health (K3)

**Unit - II:** (6 Hours)

- 2.1 Anatomy of female reproductive system (K3)
- 2.2 Primary and secondary sexual organs (K2, K4)
- 2.3 Hormones related with females-Estrogen and Progesterone (K3)
- 2.4 Puberty-Early and Late puberty (K2, K4)
- 2.5 Menstrual cycle, Menopause Amenorrhea (K3)
- 2.6 Endometriosis, Vaginal discharge (K4)

**Unit - III:** (6 Hours)

- 3.1 Stages of women hood: Pregnancy, Delivery, Lactating period - Gestation Diabetes – Hypertension during pregnancy period (K2, K4)
- 3.2 C-Section, D and C, Hysterectomy (K3)
- 3.3 Obstetrical fistula (K2, K4)
- 3.4 Female infertility (K4)
- 3.5 Contraception-Variou s methods (K3)
- 3.6 Diet and nutrition services (K3, K4)

**Unit - IV:** (6 Hours)

- 4.1 Anemia-Types, Causes, Symptoms, Diagnosis and Treatment (K2, K4)
- 4.2 Osteoporosis (K4)
- 4.3 Obesity (K2, K4)
- 4.4 Urinary infection (K3)
- 4.5 Blood Grouping, Erythroblastosis foetalis (K3)
- 4.6 Role of thyroid hormones (K4)

**Unit - V:** (6 Hours)

- 5.1 Cancer Prevalent In Women: Ovarian Cancer, Cervical Cancer, -Etiology, Symptoms, Diagnosis And Treatment (K3)
- 5.2 Breast Cancer-Etiology, Symptoms, Diagnosis And Treatment (K3)
- 5.3 Polycystic Ovaries, Fibroids- Etiology, Symptoms, Diagnosis & Treatment (K3, K4)
- 5.4 Violence Against Women-Domestic Violence And Intimate Partner Violence (K2)
- 5.5 Depression And Anxiety (K2, K3)
- 5.6 Chronic Fatigue Syndrome (K2)

**Note:** The study material will be provided by the Department

**Reference Books:**

1. N. Muruges h-Health Education and community Pharmacy- Sathya publishing Company, 4<sup>th</sup> edition, 2005
2. Ross and Wilson-Anatomy and Physiology in Health and illness-Churchill living stone publishers,10<sup>th</sup> edition, 2008
3. Dr .Ch.Murali Manothar-Ayurveda for All- Pustak Mahal Publication-1<sup>st</sup> edition, 2003
4. John Zerwekh-Women’s health Nurse Practioner 1<sup>st</sup> edition, 2013
5. Victoria Maizes-Integrative Women’s health,4<sup>th</sup> edition, 2015



**Open Educational Resources (OER):**

1. <https://youtu.be/FxvQBx-AKDg>
2. <https://youtu.be/T7t8eM6gbvk>
3. <https://youtu.be/mOrRJBqm744>
4. <https://youtu.be/6nrmczjKS2o>
5. [https://youtu.be/wJCVU4L\\_fqA](https://youtu.be/wJCVU4L_fqA)

## SEMESTER V

### UCBCG20 - ENZYMES AND INTERMEDIARY METABOLISM

Year/ Sem III / V	Course Code UCBCG20	Title of the Course Enzymes and Intermediary Metabolism	Course Type Theory	Course Category Core	H/W 6	Credits 6	Marks 40+60=100
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#### Objective:

To impart knowledge about the enzymes and the metabolism of biomolecules and its interrelationship.

#### Course Outcomes (CO)

On completion of the course, the students will be able to;

1. Describe the properties, hypothesis and IUB classification of enzymes
2. Discuss the kinetics of enzyme catalyzed reactions, enzyme immobilization and applications of enzymes and their future potential
3. List the major pathways of carbohydrates metabolism and discuss their bioenergetics and regulation
4. Compile the catabolism of amino acid and metabolism of lipids with their significance
5. Revise the metabolic activity of tissues and organ with their function

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	H	M	M	L	H
CO 2	H	M	H	H	H	M
CO 3	H	H	M	M	L	M
CO 4	H	M	M	M	L	M
CO 5	H	H	M	M	L	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	M	M	L	H
CO 2	H	M	H	H	H	M
CO 3	H	H	M	M	L	M
CO 4	H	M	M	M	L	M
CO 5	H	H	M	M	L	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

**Unit 1:** (18 hours)

- 1.1 Enzymes - Nomenclature and IUB classification. (K1, K2, K3, K4, K5, K6)
- 1.2 Enzymes: Properties and Specificity (K1, K2, K3, K4, K5, K6)
- 1.3 Salient features of active site. (K1, K2, K3, K4, K5, K6)
- 1.4 Enzyme units (IU, Katal and Turnover number) (K1, K2, K3, K4, K5, K6)
- 1.5 Lock and key hypothesis and induced fit theory (K1, K2, K3, K4, K5, K6)
- 1.6 Collision theory (K1, K2, K3, K4, K5, K6)

**Unit II:** (18 hours)

- 2.1 Kinetics of single and bi substrate enzyme catalyzed reaction (K1, K2, K3, K4, K5, K6)
- 2.2 Catalysis-mechanism of reactions involving acid-base catalysis, electrostatic catalysis and Covalent catalysis (K1, K2, K3, K4, K5, K6)
- 2.3 Co-enzymes -NAD<sup>+</sup>, FMN, Co-ASH, Pyridoxyl phosphate, Biotin, FH 4 - Structure and Functions (K1, K2, K3, K4, K5, K6)
- 2.4 Enzyme Inhibition- Competitive, Non- competitive and Uncompetitive inhibition – Irreversible inhibition – Suicidal Inhibitors (K1, K2, K3, K4, K5, K6)
- 2.5 Various methods of immobilization (K1, K2, K3, K4, K5, K6)
- 2.6 Industrial and Medical applications of Enzyme (K1, K2, K3, K4)

**Unit III:** (18 hours)

- 3.1 Carbohydrate metabolism: Glycolysis - Role of PDH complex - Citric acid cycle (Pathway, Key enzymes and Regulation) Amphibolic role of TCA cycle (K1, K2, K3, K4, K5, K6)
- 3.2 Glycogenesis – Glycogenolysis: Pathway, Key enzymes and Regulation (K1, K2, K3, K4, K5, K6)
- 3.3 Gluconeogenesis: Pathway, Key enzymes and Regulation (K1, K2, K3, K4, K5, K6)
- 3.4 Pentose phosphate pathway: Pathway, Key enzymes and Regulation (K1, K2, K3, K4, K5, K6)
- 3.5 Metabolism of Galactose and Fructose - High energy compounds (K1, K2, K3, K4, K5, K6)
- 3.6 Electron transport chain, Oxidative Phosphorylation, Uncoupler and Inhibitors (K1, K2, K3, K4, K5, K6)

**Unit IV:** (18 hours)

- 4.1 Fate of Dietary proteins - Catabolism of amino acids -Oxidative and non-oxidative deamination – Transamination (K1, K2, K3, K4, K5, K6)
- 4.2 Decarboxylation and Urea cycle (K1, K2, K3, K4, K5, K6)
- 4.3 Fate of dietary lipids – Biosynthesis fatty acids (K1, K2, K3, K4, K5, K6)
- 4.4  $\alpha$ ,  $\beta$ ,  $\omega$ - Oxidation of fatty acids-Energetic of  $\beta$  Oxidation (K1, K2, K3, K4, K5, K6)
- 4.5 Biosynthesis of Cholesterol. (K1, K2, K3, K4, K5, K6)
- 4.6 Biosynthesis of TG and Phospholipids (K1, K2, K3, K4, K5, K6)

**UNIT V:****(18 hours)**

- 5.1 Nucleic acid metabolism: Fate of dietary nucleic acid (K1, K2, K3, K4, K5, K6)
- 5.2 Purine: Biosynthesis (K1, K2, K3, K4, K5, K6)
- 5.3 Pyrimidine: Biosynthesis (K1, K2, K3, K4, K5, K6)
- 5.4 Degradation of Purine and Pyrimidine nucleotides - Inhibitors of nucleotide biosynthesis (K1, K2, K3, K4, K5, K6)
- 5.5 Interrelationship of carbohydrates, proteins and fat metabolism (K1, K2, K3, K4, K5, K6)
- 5.6 Detoxification - Conjugation, Hydrolysis, Reduction and Oxidation (K1, K2, K3, K4, K5, K6)

[Knowledge Level: K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create]

**Text Books:**

1. Robert K Murray - Harper's Illustrated Biochemistry - 31<sup>st</sup> edition - McGraw Hill, 2018
2. Satyanarayana U - Biochemistry- 5<sup>th</sup> edition - Elsevier, 2017
3. Trevor Palmer and Philip Bonner - Enzymes: Biochemistry, Biotechnology and Clinical Chemistry, 1<sup>st</sup> edition - Horwood Publishing, Chichester 2008

**Reference Books:**

1. David L Nelson Michael M cox - Lehninger's Principles of Biochemistry - 8th edition - W H Freeman and co, 2021.
2. Davidson and Sittman - Biochemistry- NMS- 4<sup>th</sup> edition - Lippincott Williams and Wilkins
3. Donald Voet and Judith G Voet - Biochemistry- 4<sup>th</sup> edition - CBS Publishers and Distributers -2011
4. Jeremy M Berg, John L Tymoczko, Stryer L -Biochemistry -7<sup>th</sup> edition - W H Freeman 2011
5. Christopher K Mathews, KE Van Holde, Kevin G Ahern - Biochemistry - 3<sup>rd</sup> edition – Pearson Education, 2000

**OPEN EDUCATIONAL RESOURCES (OER):**

1. [https://youtu.be/pVoytz\\_3H\\_s](https://youtu.be/pVoytz_3H_s)
2. [https://youtu.be/sL\\_iEOuvK80](https://youtu.be/sL_iEOuvK80)
3. <https://youtu.be/i8CC8pmtAp4>
4. <https://youtu.be/9kcrJZNFslw>
5. <https://youtu.be/fJScSmrR1MI>

## SEMESTER V

### UCBCH20 – ENDOCRINOLOGY

Year/ Sem	Course Code	Title of The Course	Course Type	Course Category	H/W	Credits	Marks
III / V	UCBCH20	Endocrinology	Theory	Core	5	6	40+60=100

#### Objective:

Endocrinology describes in detail the role of endocrine glands, their secretion and its regulatory effect on metabolic activities to maintain homeostasis.

#### Course Outcomes (CO)

On completion of the course, the students will be able to;

1. Identify the various endocrine glands, morphology and their relevant hormones secreted
2. Know the chemical nature and structure of Hormones
3. Demonstrate the mechanisms of hormone action
4. Explain the functions of hormones
5. Analyze the clinical disorders of hormones

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	M	H	H	M	M
CO 2	H	H	H	M	H	H
CO 3	H	H	M	H	H	H
CO 4	H	M	H	M	H	M
CO 5	H	H	M	H	M	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	M	M	M	H	M	M
CO 2	H	H	H	M	H	H
CO 3	M	H	M	H	M	H
CO 4	H	M	H	M	H	M
CO 5	H	H	M	H	M	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

**Unit I: (15 Hours)**

- 1.1 Glands- types of glands-General features and functions of Endocrine system (K1, K2, K3)
- 1.2 Definition of Hormones, Effector cell, target cell, Hormone target relationship (K1, K2, K4)
- 1.3 Classification of hormones based on Solubility, types of receptors, mechanism of action, (K1, K2, K3)
- 1.4 Steroid and protein hormones- Salient features, Biosynthesis, Secretion, Storage (K2, K3, K4, K5, K6)
- 1.5 Steroid and protein hormones (cAMP and tyrosine kinase) - transport and Mechanism of action (K3, K4, K5, K6)
- 1.6 Structure and types of Receptors (K1, K2, K3)

**Unit II: (15 Hours)**

- 2.1 Hypothalamus – Structure (K1, K2, K3)
- 2.2 Pituitary Gland – Structure (K1, K2, K3)
- 2.3 Anterior pituitary hormones -TSH, ACTH, LH, FSH, growth hormone, prolactin - Biosynthesis, Secretion, Storage, Transport, Mechanism of action and Function (K3, K4, K5, K6)
- 2.4 Posterior pituitary hormones - Vasopressin, Oxytocin - Biosynthesis, Secretion, Storage, Transport, Mechanism of action and Function (K3, K4, K5, K6)
- 2.5 Hypothalamic releasing factors (K1, K2, K3)
- 2.6 Pituitary Gland disorders - Gigantism, Acromegaly, Dwarfism (Etiology, Clinical features) (K1, K2, K3)

**Unit III (15 Hours)**

- 3.1 Thyroid Gland – Structure (K1, K2)
- 3.2 Parathyroid Gland – Structure (K1, K2)
- 3.3 Thyroid hormones – T3 and T4: Biosynthesis, Secretion, Storage, Transport, Mechanism of action and Function (K3, K4, K5, K6)
- 3.4 Calcium regulating hormones – PTH and Calcitonin - Biosynthesis, Secretion, Storage, Transport, Mechanism of action and Function (K3, K4, K5, K6)
- 3.5 Thyroid gland disorders -Goiter, Grave's disease, Hashimoto's disease (Etiology, Clinical features) (K1, K2, K3)
- 3.6 Functions of atrial natriuretic peptide (heart), hormones of pregnancy- human chorionic gonadotropin (placenta), Erythropoietin and renin (kidneys), leptin and resistin (adipose tissue), Thymosin (thymus gland) (K1, K2, K3, K4)

**Unit IV: (15 Hours)**

- 4.1 Pancreas – Structure (K1, K2)
- 4.2 Dual Function of the Pancreatic Gland (K1, K2, K3)
- 4.3 Pancreatic Hormones: Insulin - Biosynthesis, Secretion, Storage, Transport, Mechanism of action and Function (K3, K4, K5, K6)
- 4.4 Pancreatic Hormones: Glucagon - Biosynthesis, Secretion, Storage, Transport, Mechanism of action and Function (K3, K4, K5, K6)

4.5 Disorders of Pancreatic Hormone: Diabetes mellitus, Hyperglycemia and Hypoglycemia (K1, K2, K3)

4.7 Gastro Intestinal hormones (K1, K2, K3, K4)

**Unit V:**

**(15 Hours)**

5.1 Adrenal Gland – Anatomy (K1, K2)

5.2 Gonads – Structure (K1, K2)

5.3 Adrenal medullary hormones- Biosynthesis, Secretion, Storage, Transport, Mechanism of action and Function (K3, K4, K5, K6)

5.4 Adrenal cortex hormones - Biosynthesis, Secretion, Storage, Transport, Mechanism of action and Function (K3, K4, K5, K6)

5.5 Disorders of Adrenal hormones: Addison's disease, Cushing syndrome (Etiology, Clinical features) (K1, K2, K3)

5.6 Gonadal Hormones - Androgens, Estrogens, Progesterone - Biosynthesis, Secretion, Storage, Transport, Mechanism of action and Function (K2, K3, K4, K5, K6)

**[Knowledge Level: K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze]**

**Text Books:**

1. Prakash S Lohar- Endocrinology- Hormones and Human Health- MJP Publishers,2007
2. Lippincott W and Wilkins - Manual of Endocrinology and Metabolism- 5<sup>th</sup> edition – 2018

**Reference Books:**

- 1.Charles GD Brook and Nicholas J Marshall- Essential Endocrinology - New Age International Publishers,4<sup>th</sup> edition -2006
- 2.Franklyn F B - Molecular Endocrinology - Elsevier Publication, 3<sup>rd</sup> edition -2006
- 3.Maurice GH- Basic Medical Endocrinology-Elsevier Publication, 4<sup>th</sup> edition -2009
- 4.Ashok Kumar B- Mammalian Endocrinology - New Central book Agency, 3<sup>rd</sup> edition - 2008
5. White, Handler Smith - Mammalian Biochemistry-McGraw Hill, 7<sup>th</sup> edition -2008

**Open Educational Resources (OER):**

1. <https://www.youtube.com/watch?v=YcPicFL5Jnw>
2. <https://www.youtube.com/watch?v=pMn4nlYzTm8>
3. <https://www.youtube.com/watch?v=rQsfhSbK53s>
4. <https://www.youtube.com/watch?v=S95FSQ6ACsI>
5. <https://www.youtube.com/watch?v=JII5N2N4d-k>
6. <https://www.youtube.com/watch?v=Cvb1L9cejJ8>

## SEMESTER-V

### UEBCA20- ELECTIVE I A: IMMUNOLOGY

Year / Sem	Course Code	Title Of The Course	Course Type	Course Category	H/W	Credits	Marks
III/V	UEBCA20	Elective I A: Immunology	Theory	Elective I A	5	5	40+60=100

#### Objective:

To help the students to understand the components of Immune system

#### Course Outcomes (CO)

On completion of the course, the students will be able to;

1. Outline the cell types and organ present in the immune response
2. Identify the role of MHC antigens
3. Discuss the basic techniques of antigen and antibody interactions
4. Compare the spectrum of autoimmune diseases
5. Explain the stages of transplantation

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	M	H	H	M	M
CO 2	L	L	H	M	H	L
CO 3	M	H	M	L	H	M
CO 4	H	M	H	M	L	H
CO 5	M	H	L	H	M	L
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	H	M	M	H
CO 2	H	M	L	M	M	M
CO 3	H	H	H	H	H	H
CO 4	H	M	M	M	H	M
CO 5	H	H	M	H	L	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

#### Unit I:

**(15 Hours)**

- 1.1 Lymphoid Organs-Primary Lymphoid organs—Structure of Thymus and Bone marrow (K1, K3)
- 1.2 Secondary Lymphoid organs -Structure of Lymph node, Spleen (K2)
- 1.3 Cells involved in immune system -Morphology, secretions and functions (K3)
- 1.4 Immunity-Innate immunity and Acquired immunity (K2)
- 1.5 Immuno techniques: RIA-Types, advantages and disadvantages (K1, K4)
- 1.6 ELISA- Types - Direct, Indirect, Competitive ELISA (K2)



**Unit II:** (15 Hours)

- 2.1 Antigens: Essential features (K1, K2)
- 2.2 Epitopes, Haptens and Adjuvants (K1, K2)
- 2.3 Types of MHC antigens (K3)
- 2.4 Antibodies: Types, structure, properties and biological functions (K2, K4)
- 2.5 Clonal Selection theory (K3)
- 2.6 Production and applications of monoclonal antibodies (K3, K4)

**Unit III:** (15 Hours)

- 3.1 Antigen - antibody interactions: Precipitation reaction (K2, K4)
- 3.2 Agglutination (K2, K3)
- 3.3 Complement fixation, Lysis, and Opsonization (K3, K4)
- 3.4 Fluorescent antibody technique (K2, K4)
- 3.5 Immunoblotting technique (K2, K4)
- 3.6 Immuno electrophoresis with their types (K2, K3, K4)

**Unit IV:** (15 Hours)

- 4.1 Complement- Salient features, Classical pathway and Alternative pathway (K2, K4)
- 4.2 Humoral immunity and Cell mediated immunity (K2, K4)
- 4.3 Autoimmunity- Pathogenesis of Graves diseases and Myasthenia gravis -etiology, clinical features and treatment (K2, K3)
- 4.4 Rheumatoid arthritis and Systemic lupus erythematosus (SLE) -Etiology, clinical features and treatment (K2, K3)
- 4.5 Multiple Sclerosis -Etiology, clinical features and treatment (K2, K3)
- 4.6 Corona -Etiology, clinical features and treatment (K2)

**Unit V:** (15 Hours)

- 5.1 Transplantation immunology: Types of grafts (K3)
- 5.2 Mechanism of allograft rejection (K3, K4)
- 5.3 Hypersensitivity-factors affecting hypersensitivity (K1, K3)
- 5.4 Hypersensitivity type I-Mechanism (K2, K3)
- 5.5 Hypersensitivity type II, III Mechanism (K3)
- 5.6 Hypersensitivity type IV- Mechanism (K3)

[Knowledge Level: K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze]

**Text Books:**

1. Kuby J -Immunology - W H Freeman Company, New York, 8<sup>h</sup> edition ,2022
2. Dulsy Fathima and Arumugam- Immunology- Saras Publication ,2014

**Reference Books:**

1. Tizard L R -Immunology, Saunders 13<sup>th</sup> edition ,2017
2. Eli Benjamin -Immunology: A Short Course, Wiley Liss, 8<sup>th</sup> edition ,2021
3. Roitt -Essential Immunology -Blackwell Science, 12<sup>th</sup> edition ,2015
4. Raj Khanna-Immunology- Oxford University Publication, 3<sup>rd</sup> edition , 2011
5. Ramesh - Essential Immunology - Mc Graw Hill India Publishers,2017

**Open Educational Resources (OER):**

1. <https://youtu.be/lgapzgPAsZ0>
2. <https://youtu.be/8iyrbv1JauY>
3. [https://youtu.be/Ll\\_7z4YS2Ak](https://youtu.be/Ll_7z4YS2Ak)
4. <https://youtu.be/3XszVyYWZJE>
5. <https://youtu.be/2HPWIgzeRCs>

## SEMESTER V

### UEBCB20 - ELECTIVE I B: ENVIRONMENTAL TOXICOLOGY

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
III / V	UEBCB20	Environmental Toxicology	Theory	Elective- I B	5	5	40+60=100

#### Objective:

To understand the basics in toxicological aspects that effect the environment.

#### Course Outcomes (CO)

On completion of the course, the students will be able to;

1. Explain the properties of pollutants, effects, origin and occurrence in the environment
2. Use clinical and laboratory findings in the treatment of acute toxic exposures
3. Compare and interpret the results of occupational exposure assessments within the context of safety assessments
4. Identify signs and symptoms of important toxic syndromes
5. Discuss the role of poison information services and systems for the surveillance of Poisoning

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	M	H	H	M	M
CO 2	H	H	H	M	H	M
CO 3	H	H	M	H	H	M
CO 4	H	M	H	M	H	M
CO 5	H	H	M	H	M	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	H	M	M	H
CO 2	H	M	L	M	M	M
CO 3	H	H	H	H	H	H
CO 4	H	M	M	M	H	M
CO 5	H	H	M	H	L	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

#### Unit I:

(15 hours)

- 1.1 Definition and scope of toxicology (K1, K2, K3)
- 1.2 Eco-toxicology and its environment significance (K1, K2, K3)
- 1.3 Basis for general classification and nature, dose - response relationship (K1, K2)
- 1.4 Synergism and Antagonism, Determination of ED<sub>50</sub> and LD<sub>50</sub> (K1, K2)
- 1.5 Acute and chronic exposures. Factors influencing toxicity (K1, K2)
- 1.6 Pharmaco dynamics & Chemo dynamics (K1, K2)

#### Unit II:

(15 Hours)

- 2.1 Principles and procedures of testing for acute toxic effects (K1, K2, K4)
- 2.2 Regulators guidelines, mammalian systems affected and the clinical signs (K1, K2, K3)
- 2.3 Factors affecting acute toxicity studies. Biochemical basis of toxicity (K1, K2)
- 2.4 Mechanism of toxicity: disturbance of excitable membrane function altered calcium homeostasis (K1, K2)
- 2.5 Covalent binding to cellular macromolecules (K1, K2)
- 2.6 Tissue specific toxicity (K1, K2)

**Unit III: (15 Hours)**

- 3.1 Toxicity testing: Test Protocol, Genetic Toxicity Testing (K1, K2, K4)
- 3.2 Mutagenesis Assays: In-vivo test systems- Bacterial Mutation Tests: Reversion Tests, Ames test, Fluctuation Tests (K1, K2, K4)
- 3.3 Use of drosophila in toxicity testing. (K1, K2, K4)
- 3.4 DNA repair assays. (K1, K2, K4)
- 3.5 Chromosome damage test. (K1, K2, K4)
- 3.6 Toxicological evaluation of Recombinant DNA –Derived Proteins. (K1, K2)

**Unit IV: (15 Hours)**

- 4.1 Food toxicology: Toxin and Toxicants (K1, K2)
- 4.2 Toxicology of food additives. (K1, K2, K3)
- 4.3 Metal toxicity: Toxicology of Arsenic and Mercury (K1, K2, K3)
- 4.4 Metal contamination and human disease (K1, K2)
- 4.5 Environmental Factors Affecting Metal Toxicity- Effect of Light, Temperature & P<sup>H</sup> (K1, K2)
- 4.6 Diagnosis of toxic changes in liver and kidneys (K1, K2, K4)

**Unit V: (15 Hours)**

- 5.1 Air Pollution: Common Air Pollutants And Their Sources (K1, K2)
- 5.2 Air Pollution & Ozone. (K1, K2)
- 5.3 Air Pollution Due To Chlorofluorocarbons (CFCS) And Asbestos. (K1, K2, K3)
- 5.4 Occupational Toxicology And Assessment Of Occupational Hazards (K1, K2)
- 5.5 An Overview Of Regulatory Agencies: Responsibilities Of Regulatory Agencies. (K1, K2, K3)
- 5.6 Management of toxicological risks. (K1, K2)

**[Knowledge Level: K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze]**

**Text Books:**

1. Tyler Miller G and Scott E. Spoolman, Environmental Science, 16th edition, Cengage learning, 2018
2. Principles of Forensic Medicine & Toxicology 2<sup>nd</sup> edition – Rajesh Bardale , 3<sup>rd</sup> edition, 2021.

**Reference Books:**

1. Casarett and Doull's Toxicology, 4<sup>rd</sup> edition - Klaassen C D, Amdur M O & Doull J - Macmillan publishing company, New York, 2021

2. Williams P L &Burson J L Van- Nostrand Reinhold -Industrial Toxicology - New York, 1985
3. Hayes A W - Principles and methods of toxicology, 2<sup>nd</sup> edition Raven press New York - 1988
4. Stewart C P &Stolman A - Toxicology, Vol I Academic press, New York, 1960
5. George Tyler Miller, Jr. and Scott Spoolman, Living in the Environment – Principles, Connections and Solutions, 17th Edition, Brooks/Cole, USA, 2012.

**Open Educational Resources (OER):**

1. <https://youtu.be/O4VMW52gx90>
2. <https://youtu.be/fEibDPQRbMc>
3. <https://youtu.be/fTPscvo4H0Y>
4. [https://youtu.be/QwFl\\_PbEj1E](https://youtu.be/QwFl_PbEj1E)
5. <https://youtu.be/mMEb5pzY6wI>

**SEMESTER – V & VI**  
**UCBCJ20- MAIN PRACTICAL -III**

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
III / VI	UCBCJ20	Main Practical –III	Practical	Core	4	6	40+60=100

**Objective:**

The course is aimed to enhance the practical skill of the student in handling and estimating the components present in the biological samples.

**Course Outcomes (CO)**

On Completion of the course, the students will be able to;

1. Apply the safety measures in the laboratory
2. Predict the biochemical laboratory analysis
3. Analyse the presence and absence of abnormalities in blood
4. Assess the presence and absence of abnormalities in urine

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	H	M	M	L	H
CO 2	L	M	L	H	H	M
CO 3	H	L	M	M	L	M
CO 4	H	M	M	M	L	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	M	M	L	H
CO 2	H	L	H	H	H	M
CO 3	H	H	M	M	L	M
CO 4	H	M	L	M	L	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

**1. Safety Measures In The Laboratory-III**

**2. Colorimetric Estimations In Clinical Samples:**

1. Estimation of Creatinine by Jaffe's method
2. Estimation of Glucose by Orthotoluidine method
3. Estimation of Urea by Diacetyl Monoxime method
4. Estimation of Cholesterol by Zak's method
5. Estimation of Bilirubin by Vandenberg method
6. Estimation of Uric acid by Caraway's method
7. Estimation of Protein by Biuret method and determination of A/G ratio
8. Estimation of Protein by Lowry's method
9. Estimation of DNA by Diphenyl amine method
10. Estimation of RNA by Orcinol method

### **3. Urine Analysis:**

1. Methods for Preservation of Urine for analysis
2. Qualitative Analysis of Urine for Normal Constituents
3. Qualitative Analysis of Urine for Abnormal Constituents

### **4. Extraction, Isolation, Identification And Purification**

1. DNA
2. RNA
3. Proteins

### **Reference Books:**

1. Jayaraman J - Manuals in Biochemistry - New Age International Publishers,2001
2. Varley, Alan H Gowen lock - Practical Biochemistry - 6<sup>th</sup> edition - CBS Publishers,2002
3. David T Plummer - Practical Biochemistry- 3<sup>rd</sup> edition - McGraw Hill Publishers,2005
4. Sawhney SK, Randhir Singh - Introductory Practical Biochemistry - 2<sup>nd</sup> edition - Narosa Publishers,2001
5. Kanai L Mukherjee - Medical Laboratory Technology - Volume I - Tata Graw Hill Publication Company Limited,2010

**SEMESTER – V & VI**  
**UCBCK20- MAIN PRACTICAL –IV**

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
III / VI	UCBCK20	Main Practical - IV	Practical	Core	4	6	40+60=100

**Objective:**

The course is aimed to enhance the practical skill of the student in handling and estimating the components present in the biological samples.

**Course Outcomes (CO)**

On completion of the course, the students will be able to;

1. Apply the safety measures in the laboratory
2. Analyze the biological sample for the enzyme activity
3. To obtain practical skills in basic hematological techniques.

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	H	M	M	L	H
CO 2	M	M	L	H	H	M
CO 3	H	L	M	M	L	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	M	M	L	H
CO 2	H	L	H	M	H	M
CO 3	M	H	M	M	L	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

**1. Safety Measures In The Laboratory-IV**

**2. Enzyme Analysis:**

1. Determination of SGOT activity.
2. Determination of SGPT activity
3. Effect of pH on the activity of the enzyme -Acid phosphatase
4. Effect of Temperature on the activity of the enzyme - Acid phosphatase
5. Effect of substrate concentration on the activity of the enzyme -Acid phosphatase
6. Determination of Specific activity of the enzyme - Acid phosphatase
7. Effect of pH on the activity of the enzyme - salivary amylase
8. Effect of Temperature on the activity of the enzyme - salivary amylase
9. Effect of substrate concentration on the activity of the enzyme - salivary amylase
10. Determination of Specific activity of the enzyme - salivary amylase



### **3. Hematological Experiments:**

1. Methods for Preservation of blood for analysis
2. Collection of Blood
3. Enumeration of RBC
4. Enumeration of WBC
5. Enumeration of Platelets
6. Estimation of Erythrocyte sedimentation rate
  
7. Determination of Hemoglobin
8. Packed cell volume
9. Determination of Bleeding time
10. Determination of Clotting Time
11. Grouping of Blood & Rh typing

### **Reference Books:**

1. Jayaraman J - Manuals in Biochemistry - New Age International Publishers,2011
2. Varley, Alan H Gowen lock - Practical Biochemistry - 6<sup>th</sup> edition - CBS Publishers,2002
3. David T Plummer - Practical Biochemistry- 3<sup>rd</sup> edition - McGraw Hill Publishers,2005
4. Sawhney SK, Randhir Singh - Introductory Practical Biochemistry - 2<sup>nd</sup> edition - Narosa Publishers,2001
5. Kanai L Mukherjee - Medical Laboratory Technology - Volume I - Tata Graw Hill Publication Company Limited,2010

## SEMESTER V

### USBCCn20 – SBE: ENTREPRENEURIAL BIOCHEMISTRY

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
III / V	USBCC20	Entrepreneurial Biochemistry	Theory	Skill Based Elective III	2	2	40+60=100

#### Objective:

To understand the concept of entrepreneurship

#### Course Outcomes (CO)

On completion of the course, the students will be able to;

1. Explain the theory of entrepreneurship and its practical implementation
2. Explore and experience the joy of creating small business ideas
3. Identify strategic marketing planning and mobilize resources for future growth, development and protection of their enterprise
4. Implement market opportunities into business plan
5. Re-construct and build a mindset focusing on unique approach to market opportunities

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	M	H	H	M	M
CO 2	H	H	H	M	H	M
CO 3	H	H	M	H	H	M
CO 4	H	M	H	M	H	M
CO 5	H	H	M	H	M	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	H	M	M	H
CO 2	H	M	L	M	M	M
CO 3	H	H	H	H	H	H
CO 4	H	M	M	M	H	M
CO 5	H	H	M	H	L	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

**Unit I:** (6 Hours)

- 1.1 Entrepreneurship - concept (K1, K2)
- 1.2 Entrepreneurship - Need and importance (K1, K2, K3)
- 1.3 Types of entrepreneur (K1, K2)
- 1.4 Characters of entrepreneur (K1, K2, K3)
- 1.5 Entrepreneurial values (K1, K2, K3)
- 1.6 Role of society and family in the growth of an entrepreneur. (K1, K2, K4)

**Unit II:** (6 Hours)

- 2.1 Business ideas (K1, K2)
- 2.2 Methods of generating ideas (K1, K2, K3)
- 2.3 Feasibility study and Opportunity assessment (K1, K2, K4)
- 2.4 Business plan preparation and Execution (K1, K2, K3)
- 2.5 Project report - Patent registration process (K1, K2, K4)
- 2.6 Challenges faced by women in entrepreneurship (K1, K2, K4)

**Unit III:** (6 Hours)

- 3.1 Institutional Support System and Government schemes for Entrepreneurs (K1, K2, K3)
- 3.2 Central Government Support system MSME – NABARD – SIDO – NSIC – KVIC – DIC (K1, K2, K3)
- 3.3 Start-up India - Make in India (K1, K2, K3)
- 3.4 Supports to Training and Employment Programme for Women (STEP) (K1, K2, K3)
- 3.5 Biotechnology Industry Research Assistance Council (BIARC). (K1, K2, K3)
- 3.6 Export- Packing licence- Marketing (K1, K2, K3)

**Unit IV:** (6 Hours)

- 4.1 Organic Farming (K1, K2, K3)
- 4.2 Preparation of value-added product from dairy farms (K1, K2, K3)
- 4.3 Food processing (K1, K2, K3)
- 4.4 Mushroom cultivation (K1, K2, K3)
- 4.5 Compost fertilizer production - Vermi compost (K1, K2, K3)
- 4.6 Biopesticide manufacturing. (K1, K2, K3)

**Unit V:** (6 Hours)

- 5.1 Health drinks preparation (K1, K2, K3)
- 5.2 Seasonal juice preparation (K1, K2, K3)
- 5.3 Homemade cakes and cookies (K1, K2, K3)
- 5.4 Homemade chocolates (K1, K2, K3)
- 5.5 Handmade soaps (K1, K2, K3)
- 5.6 Herbal preparation (Herbal incense) (K1, K2, K3)

[Knowledge Level: K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze]

**Text Books:**

**Note:** The study materials will be provided by the Department

**Reference Books:**

1. Jayashree Suresh - Entrepreneurial Development 1<sup>st</sup> edition – Margham Publication, 2016
2. Bygrave W., & Zacharakis, A, Entrepreneurship, 4<sup>th</sup> edition Wiley, 2017
3. Rajeev Roy, Entrepreneurship 2<sup>nd</sup> edition, Oxford University Press, 2011
4. Khanka S.S., Entrepreneurial Development S. Chand & Co.Ltd., Ram Nagar, Newdelhi, 2013.
5. Donald F. Kuratko, Entrepreneurship – Theory, Process and Practice, 9<sup>th</sup> Edition, Cengage learning 2014.

**Open Educational Resources (OER):**

1. <https://youtu.be/92ZmzD70sOU>
2. <https://youtu.be/Fqch5OrUPvA>
3. [www.businessmanagementideas.com](http://www.businessmanagementideas.com)
4. <https://msme.gov.in/all-schemes>
5. <https://youtu.be/y0ux7mYJXcs>
6. <https://youtu.be/Z82rct0pknk>

## SEMESTER VI

### UCBCI20 - MOLECULAR BIOLOGY

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
III / VI	UCBCI20	Molecular Biology	Theory	Core	6	6	40+60=100

#### Objective:

To make a study on life and the information centers called genes.

#### Course Outcomes (CO):

On completion of the course, the students will be able to;

1. Demonstrate the nature of Genes
2. Analyze the blueprint of life
3. Describe the mechanism of replication
4. Illustrate the mechanism of Transcription
5. Demonstrate the features of Genetic code and mechanism of Translation

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	H	H	H	M	H
CO 2	H	H	H	H	H	M
CO 3	H	H	M	M	H	H
CO 4	H	M	H	M	H	H
CO 5	H	H	M	H	M	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	M	M	M	M	H
CO 2	H	H	H	H	H	M
CO 3	H	H	H	H	M	M
CO 4	H	H	H	H	H	H
CO 5	H	M	H	H	M	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

**Unit I:** (18 Hours)

- 1.1 Genetics- Mendel's laws of inheritance, test cross, back cross and law of incomplete dominance (K1, K2, K3, K4)
- 1.2 Genomic organization of prokaryotes cells (K1, K2, K3, K4)
- 1.3 Genomic organization of eukaryotic cells (K1, K2, K3, K4)
- 1.4 Genetic Material – DNA and RNA, Evidences for DNA as genetic material - Griffith, Avery et al and Hershey chase experiments (K1, K2, K3, K4)
- 1.5 Central dogma of molecular genetics (K1, K2, K3, K4)
- 1.6 Repetitive DNA (K1, K2, K3, K4)

**Unit II:** (18 Hours)

- 2.1 Prokaryotic replication: Modes of replication (K1, K2)
- 2.2 Semi conservative replication - Experimental evidences (K1, K2)
- 2.3 Process of Prokaryotic replication - Initiation, Elongation and Termination (K1, K2)
- 2.4 Enzymes and proteins involved in replication (K1, K2)
- 2.5 Inhibitors of replication (K1, K2)
- 2.6 DNA repair - Overview (K1, K2)

**Unit III:** (18Hours)

- 3.1 Prokaryotic transcription: Promoters (K1, K2)
- 3.2 Process of transcription- Initiation, Elongation & Termination (K1,K2, K3,K4)
- 3.3 Enzymes and proteins involved in transcription (K1, K2)
- 3.4 Inhibitors of transcription (K1, K2)
- 3.5 Post transcriptional processing of rRNA and tRNA in prokaryotes (K1, K2)
- 3.6 Reverse transcription (K1, K2)

**Unit IV:** (18 Hours)

- 4.1 Genetic code dictionary - General features, Wobble hypothesis (K1, K2)
- 4.2 Composition of prokaryotic ribosome (K1, K2)
- 4.3 Composition of eukaryotic ribosome (K1, K2)
- 4.4 Process of protein synthesis in prokaryotes - Initiation, Elongation and Termination (K1,K2, K3, K4)
- 4.5 Inhibitors of protein synthesis in prokaryotes (K1, K2)
- 4.6 Post translational modification (K1, K2)

**Unit V:** (18 Hours)

- 5.1 Regulation of gene expression in prokaryotes: Operon concept - lac operon (K1, K2)
- 5.2 Mutation: Definition, Classification with example (K1, K2)
- 5.3 An overview of Genomics (K1, K2)
- 5.4 An overview of Proteomics (K1, K2)
- 5.5 Chromosome mapping, Human Genome Project (K1, K2)
- 5.6 DNA micro arrays, DNA fingerprinting and foot printing (K1, K2)

[Knowledge Level: K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyse]

**Text Books:**

1. Lehninger, David Nelson and M Chael M Cox - Principles of Biochemistry - WH Freeman and Company Ltd, 5th edition -2009
2. David Friefelder - Molecular Biology- Narosa Publishing House, 2nd edition -2008

**Reference Books:**

1. Lodish, Darnell and Baltimore - Molecular Cell Biology - WH Freeman and Company, 4th edition -2000
2. Brown TA - Gene Cloning- Blackwell Science, 8th edition -2018
3. Benjamin Lewin - Gene VIII - Pearson Education International, 8th edition -2018
4. David Friefelder - Molecular Biology -Narosa Publishing House, 2nd edition -2008
5. Veer Bala Rastogi - Principles of Molecular Biology ,4th edition - 2016
6. Batiza Ann. Bioinformatics, Genomics, and Proteomics (English, Hardcover, Batiza Ann), Chelsea House Publishers, 2005

**Open Educational Resources (OER):**

1. <https://www.youtube.com/watch?v=0yBD0xKbcVU>
2. <https://www.youtube.com/watch?v=gZAw7pahzMM>
3. <https://www.youtube.com/watch?v=k4AI4UipziI>
4. <https://www.youtube.com/watch?v=gvYJaPpkSZg>
5. <https://www.youtube.com/watch?v=xYOK-yzUWSI>

## SEMESTER- VI

### UEBCC20- ELECTIVE II A: CLINICAL BIOCHEMISTRY

Year / Sem	Course Code	Title Of The Course	Course Type	Course Category	H/W	Credits	Marks
III/VI	UEBCC20	Clinical Biochemistry	Theory	Elective II A	5	6	40+60=100

#### Objective

To understand the biochemical basis of various diseases and disorders

#### Course Outcomes (CO):

On completion of the course, the students will be able to;

1. Discuss the disorders of carbohydrate metabolism
2. Outline the role of serum lipids
3. Describe the types of jaundice and serum enzyme activities in diseases
4. Identify various renal disorders and examination of gastric residuum
5. Compare the application of diagnostic enzymes

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	H	H	H	M	H
CO 2	H	H	H	H	H	M
CO 3	H	H	M	M	H	H
CO 4	H	M	H	M	H	H
CO 5	H	H	M	H	M	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	M	M	M	M	H
CO 2	H	H	H	H	H	M
CO 3	H	H	H	H	M	M
CO 4	H	H	H	H	H	H
CO 5	H	M	H	H	M	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

#### Unit I:

(15 Hours)

- 1.1 Regulation of Blood Glucose level - Hypoglycemia and Hyperglycemia, renal threshold value and Tubular maximum reabsorption of Glucose (TmG) (K1, K2)
- 1.2 Diabetes mellitus - Types, Etiology, Clinical features, Complications and Management- Diabetic ketoacidosis (K2, K3)
- 1.3 Significance of fasting and post prandial blood glucose (K1, K2)
- 1.4 Glucose tolerance test and Glycosylated Hb (K2, K4)
- 1.5 Galactosemia - Fructosuria – Lactose intolerance (K2, K3)



## 1.6 Glycogen storage diseases (K2, K4)

### **Unit II: (15 Hours)**

- 2.1 Lipoproteins- Types and function, Elementary details of Hypo and Hyper lipoproteinemia (K1, K2)
- 2.2 Atherosclerosis and Ischemic Heart disease (K2, K3)
- 2.3 Factors affecting Blood Cholesterol level, Hypercholesterolemia (K2, K3, K4)
- 2.4 Fatty liver-types and treatment, Cirrhosis (K2, K4)
- 2.5 Inborn errors of Amino acid Metabolism- Phenylketonuria, Alkaptonuria (K2, K3)
- 2.6 Inborn errors of Amino acid Metabolism-Cystinuria, Hemophilia, Albinism (K2, K3)

### **Unit III: (15 Hours)**

- 3.1 Metabolism of Bilirubin (K2, K3)
- 3.2 Jaundice – Types: Haemolytic jaundice, Obstructive jaundice, Hepatic jaundice (K3, K4)
- 3.3 Liver function test based on abnormalities of pigment metabolism - Vandenbergh reaction and Urine bilirubin (K3)
- 3.4 Galactose tolerance test (K2, K3)
- 3.5 BSP test (K3, K4)
- 3.6 Prothrombin time (K1, K3)

### **Unit IV: (15 Hours)**

- 4.1 Kidney diseases -Glomerulonephritis, Nephrotic syndrome - Etiology, clinical features, diagnosis and treatment (K2, K3)
- 4.2 Clearance- Definition and types, Renal function tests based on glomerular filtration urea and creatinine clearance (K2, K3)
- 4.3 Renal plasma flow (PAH test) and Tubular function- Phenol sulphathelein test (K3)
- 4.4 Gastric function test – Collection and Examination of gastric contents (K3, K4)
- 4.5 FTM– Collection and Examination of gastric contents (K3)
- 4.6 Stimulation test- Alcohol, Caffeine and Histamine (K2, K3)

### **Unit V: (15 Hours)**

- 5.1 Assessment of Cell Damage and Proliferation – Localization of Damage – Nonspecific causes of Raised plasma Enzyme activities (K2, K3)
- 5.2 Enzymes of Diagnostic importance- Aspartate transaminase, Alanine transaminase, Lactate Dehydrogenase, Creatinine Kinase (K2, K3)
- 5.3 Enzymes of Diagnostic importance – Amylase, Acid phosphatase, Alkaline phosphatase (K2, K4)
- 5.4 Enzymes of Diagnostic importance -Streptokinase,  $\gamma$  Glutamyl transferase, Aldolase (K2, K4)
- 5.5 Cancer: Etiology- Morphological changes in Tumour cells (K4)
- 5.6 Tumour markers - AFP, CEA HCG (K4)

**[Knowledge Level: K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze]**

**Text Books:**

1. Chatterjea MN and Rana Shinde -Text Book of Medical Biochemistry - Jaypee Brothers-Medicinal Publishers Ltd,8<sup>th</sup> edition -2012
2. Kaplan L A, Perce A J, Steven C Kazmierczak - Clinical Chemistry - 5<sup>th</sup> edition - 2009

### **Reference Books:**

1. Carl A Burtis, Edward R Ashwood-Tietz-Fundamentals of Clinical Chemistry - Harcourt Private Limited, 8<sup>th</sup> edition -2017
2. Davidson and Henry-Clinical Diagnosis by Laboratory Methods - 19<sup>th</sup> edition -2005
3. A H Gowen lock, -Varley's Practical Clinical Biochemistry - 5<sup>th</sup> edition - 2009
4. Philip D Mayne - Clinical Chemistry in Diagnosis and Treatment - ELST Publishers, 6<sup>th</sup> edition
5. Thomas M Devlin- Practical Clinical Biochemistry - 6<sup>th</sup> edition – 2006

### **Open Educational Resources (OER):**

1. <https://youtu.be/LuVcPNF5S1g>
2. <https://youtu.be/wytTRDz8syo>
3. <https://youtu.be/c4CvXTYimck>
4. <https://www.youtube.com/watch?v=RwvbO-40xvw>
5. <https://www.youtube.com/watch?v=1S8XpJ1UVVM>

## SEMESTER-VI

### UEBCD20- PHARMACOLOGY

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
III / VI	UEBCD20	Pharmacology	Theory	Elective II B	5	5	40+60=100

#### Objective

To make detailed study of drugs, and their actions on living systems

#### Course Outcomes (CO):

On completion of the course, the students will be able to,

1. Classify different dosage forms of drug
2. Discuss the basic understanding of detoxification mechanisms
3. Compare the structure and uses of antibiotics available
4. Outline the clinical applications, side effects and toxicities of cardiovascular drugs
5. List out commonly used analgesic and anesthetic drug classes

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	M	H	H	M	M	M
CO 2	M	M	H	H	M	L
CO 3	H	H	M	H	M	M
CO 4	L	H	H	M	H	M
CO 5	M	M	M	M	L	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	M	H	H	M	M	M
CO 2	M	M	H	H	M	L
CO 3	H	H	M	H	M	M
CO 4	L	H	H	M	H	M
CO 5	M	M	M	M	L	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

#### Unit I:

(15 hours)

- 1.1 Introduction - Sources and dosage forms (K2, K3)
- 1.2 Route of administration (K3, K4)
- 1.3 Classification- absorption of drugs, Distribution (K2, K3)

- 1.4 Binding of drugs to plasma proteins (K2, K4)
- 1.5 Receptor- Types and Binding forces in Drug-receptor interaction (K1, K3)
- 1.6 Consequences of Drug-receptor interaction (K4)

**Unit II: (15 hours)**

- 2.1 Xenobiotics (K2, K4)
- 2.2 Mechanism of oxidation in Phase I (K2, K3)
- 2.3 Mechanism of reduction in Phase I (K2, K3)
- 2.4 Mechanism of hydrolysis in Phase I (K2, K3)
- 2.5 Phase II- conjugation (K3, K4)
- 2.6 Structure and uses of oral hypoglycemic drugs - Classes, Parenteral (K3)

**Unit III: (15 hours)**

- 3.1 Antibiotics: Structure and therapeutic uses of Penicillin, Streptomycin, Tetracycline, Chloramphenicol and Erythromycin (K2, K3)
- 3.2 Antiseptics (K1, K2)
- 3.3 Disinfectants (K1, K2)
- 3.4 Structure and uses of Phenols and related compounds - (a) Alkyl substituted Phenols: Cresol, Thymol (b) Chlorinated Phenols: Chloroxylenol (K3, K4)
- 3.5 Halogen compounds – Chloramine and Organic mercurial - Thiomersol (K2, K3)
- 3.6 Formaldehyde and its derivative - Formaldehyde and Nitro furan derivative - Nitro furazone (K2, K3)

**Unit IV: (15 hours)**

- 4.1 Cardiovascular Drugs - Structure And Action Of Cardiac Glycosides- Digoxin And Digitoxin (K2, K3)
- 4.2 Antiarrhythmic Drugs - Structure And Uses Of Propranolol And Procainamide (K1, K2)
- 4.3 Anti- Hypertensive Agents - Drugs Acting Centrally - Example: Clonidine And Alpha Methyl Dopa (K2, K3)
- 4.4 Ganglion Blockers - Example: Pentolinium Tartrate (K2, K3)
- 4.5 Vasodilators - Example: Tolazaline (K1, K2)
- 4.6 B Blockers - Example: Phenoxybenzamine – Hypotensive agents (K2, K3)

**Unit V: (15 hours)**

- 5.1 Analgesics -Morphine, Pethidine, Aspirin (K2, K3)
- 5.2 Salicin (K1, K2)
- 5.3 Paracetamol and Phenacetin (K2, K3)
- 5.4 Analgin and Indomethacin (K3)
- 5.5 Anesthetics - Chloroform, Nitrous oxide, Trichloro ethylene, Benzocaine, Procaine, Lignocaine (K2, K4)
- 5.6 Cytotoxic agents – Chlorambucil (K3)

**[Knowledge Level: K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze]**

**Text books:**

1. Jayashree Ghosh - A Textbook of Pharmaceutical Chemistry, - SS Chand and Company, 5th edition, 2014
2. Seth SD - Textbook of Pharmacology, Reed Elsevier India Private Limited, 3rd edition, 2009

**Reference Books:**

1. Satoskar RS, Bhandarkar SD and Ainapure SS - Pharmacology and Pharmacotherapeutics, Popular Prakashan, 24th edition, 1995
2. William Foye - Principles of Medicinal Chemistry, 5th edition, 2002
3. Patrick I Graham - An Introduction to Medicinal Chemistry, Oxford University Press, 6th edition, 2017
4. Graham, Smith DG and Arosen JK - Textbook of Clinical Pharmacology and Drug Therapy, Oxford University Press, 3rd edition, 2002
5. West SE, Todd RW, Mason SR and Bruggen TJ- Textbook of Biochemistry, Oxford University Press, 4<sup>th</sup> edition, 1974

**Open Educational Resources (OER):**

1. <https://youtu.be/--sqCGRij40>
2. <https://youtu.be/GUyGklIMqL8>
3. <https://youtu.be/mMk6VWVpRpo>
4. <https://youtu.be/caJZweuzQO8>
5. <https://youtu.be/wx3dZmv5pM0>
6. <https://youtu.be/t2tKyjj7u5Y>

## SEMESTER VI

### UEBCE20 – ELECTIVE III A: BIOTECHNOLOGY

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
III / VI	UEBCE20	Biotechnology	Theory	Elective III A	5	5	40+60=100

#### Objective:

To explore the applications and future potential of Biotechnology

#### Course Outcomes (CO):

On completion of the course, the students will be able to;

1. Recall the steps involved in recombinant DNA technology
2. Outline the role of vector in gene technology and explain the construction of Genomic and cDNA library and their importance
3. Explain the principles of plant tissue and animal cell culture and summarize the methods used to produce transgenic plants and animals
4. Identify and debate the ethical and social issues in the field of biotechnology and get insight in application of rDNA technology
5. Discuss the various aspects of bioprocess technology

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	H	M	M	L	H
CO 2	H	M	H	H	H	M
CO 3	H	H	M	M	L	M
CO 4	H	M	M	M	L	M
CO 5	H	H	M	M	L	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	M	M	L	H
CO 2	H	M	H	H	H	M
CO 3	H	H	M	M	L	M
CO 4	H	M	M	M	L	M
CO 5	H	H	M	M	L	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

#### Unit I:

**(15 hours)**

- 1.1 Introduction to Biotechnology and its branches- Scope and importance of biotechnology (K1, K2)
- 1.2 Biotechnology in India (K1, K2)
- 1.3 Introduction to Genetic Engineering- Steps and enzymes involved in Genetic Engineering (K1, K2, K3, K4)
- 1.4 Restriction endonucleases: Nomenclature – Types (K1, K2, K3, K4)
- 1.5 Reverse Transcriptase, Taq polymerase and DNA Ligases (K1, K2, K3, K4)

## 1.6 Applications of genetic Engineering. (K1, K2, K3)

### **Unit II: (15 hours)**

- 2.1 Gene cloning vectors: Plasmids: Classification, Characteristics, Example: pBR322 (K1, K2, K3, K4)
- 2.2 Shuttle vectors: Example pJDB219 (K1, K2, K3, K4)
- 2.3 Cosmid: Feature, Example: pLFR5 (K1, K2, K3, K4)
- 2.4 DNA Library: Genomic and cDNA library (K1, K2, K3)
- 2.5 Methods of Gene Transfer (K1, K2, K3)
- 2.6 Gene cloning in Prokaryotes: methodology of Gene cloning with reference to Insulin gene (K1, K2, K3, K4)

### **Unit III: (15 hours)**

- 3.1 Plant tissue Culture: Basis of Plant cell and tissue culture- A tissue culture laboratory – Nutrient media composition and preparation - maintenance of Aseptic Environment (K1, K2, K3, K4)
- 3.2 Methods of Plant cell, Tissue and Organ culture - Somatic embryogenesis and Somaclonal variation (K1, K2, K3, K4)
- 3.3 Animal cell culture - Characteristics, Substrates and Culture Media (K1, K2, K3, K4)
- 3.4 Somatic cell fusion - Valuable products from cell culture- Tissue Plasminogen Activator (K1, K2, K3, K4)
- 3.5 Gene transfer in plants and animals- Transgenic plants -Herbicide resistance - stress tolerance - Transgenic plants as bioreactor (K1, K2, K3, K4)
- 3.6 Transgenic animals- Transgenic cattle- The first mammalian clone “Dolly- Animal Bioreactors (K1, K2, K3, K4)

### **Unit IV: (15 hours)**

- 4.1 Genetically engineered microorganisms (GEMOs) in health care products: Insulin (K1, K2, K3)
- 4.2 Cytokines: Importance (K1, K2, K3)
- 4.3 Interferon: Importance (K1, K2, K3)
- 4.4 Vaccines: Importance (K1, K2, K3)
- 4.5 Risks of releasing Genetically Engineered Organisms (K1, K2)
- 4.6 Ethics of biotechnology (K1, K2)

### **Unit V: (15 hours)**

- 5.1 Fermentation systems- Batch and continuous process (K1, K2)
- 5.2 Fermentor design (K1, K2)
- 5.3 Solid substrate fermentation (K1, K2, K3)
- 5.4 Components of Medium - criteria used in media formulation (K1, K2, K3)
- 5.5 Downstream processing - introduction, separation process, example of recovery process (K1, K2, K3, K4)
- 5.6 Wine and SCP: Production and types (K1, K2, K3)

**[Knowledge Level: K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze]**

**Text Books:**

1. Dubey RC - A Text book of Biotechnology - 5th edition - S Chand Publishing
2. Satyanarayana U - Biotechnology - 5th edition - Books and Allied Private Ltd, 2022

**Reference Books:**

1. William J Thieman, Michael A Palladino - Introduction to Biotechnology: Pearson New international edition - 2013
2. Bourgaise Jewell, Buiser - Biotechnology- 2nd edition - Pearson Education Pvt Ltd, 2004
3. Lewin B - Genes - VIII - Pearson, 2004
4. Glick and Pasternak - Molecular Biotechnology - 5th edition - ASM Press, 2017
5. Brown TA Gene - Cloning and DNA Analysis: An Introduction - 6th edition - Wiley-Blackwell

**OPEN EDUCATIONAL RESOURCES (OER):**

1. <https://youtu.be/BK12dQq4sJw>
2. <https://youtu.be/VvusmIcA6i0>
3. <https://youtu.be/q0B9Bn1WW> 4
4. <https://youtu.be/CfTnVx31pr0>
5. <https://youtu.be/unkZIN5qeXM>
6. <https://youtu.be/Bz02Qlsu4XI>



## SEMESTER- VI

### UEBCF20 - ELECTIVE III B: PLANT BIOCHEMISTRY

Year/ Sem	Course Code	Title Of The Course	Course Type	Course Category	H/W	Credits	Marks 100
III/VI	UEBCF20	Plant Biochemistry	Theory	Elective III B	5	5	40+60=100

#### Objectives:

To explore the applications of plant and their products

#### Course Outcomes (CO):

On completion of the course, the students will be able to;

1. Describe the structural features of plant cell and phytohormones
2. Outline the types of photosynthetic pigments
3. Create the impact of nitrogen, sulphur and carbon cycle on nature
4. Compile the mechanism of seed germination
5. Identify the antioxidant potential and role of secondary metabolites

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	H	M	M	L	H
CO 2	H	M	H	H	H	M
CO 3	H	H	M	M	L	M
CO 4	H	M	M	M	L	M
CO 5	H	H	M	M	L	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	M	M	L	H
CO 2	H	M	H	H	H	M
CO 3	H	H	M	M	L	M
CO 4	H	M	M	M	L	M
CO 5	H	H	M	M	L	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

#### Unit I:

**(15 Hours)**

- 1.1 Architecture of plant cell and its role - Plasmodesmata, Vacuoles, Plastids, Chloroplast, Mitochondria, Peroxisomes. (K2, K3)
- 1.2 Cell wall - Structure of plant cell wall - Cellulose and Hemicelluloses. (K3)
- 1.3 Plant growth regulators - structure and physiological effects of Auxins structure and Physiological effects of Gibberellins (K2, K3)
- 1.4 Structure and physiological effects of Cytokinin. (K3, K4)

- 1.5 Structure and physiological effects of Abscisic acid. (K3, K4)
- 1.6 Structure and physiological effects of Ethylene – Phytochromes (K3, K4)

**Unit II: (15 Hours)**

- 2.1 Photosynthesis - photosynthetic pigments Chlorophyll Structure and their function (K2, K3)
- 2.2 Carotenoid - Structure and their function (K1, K3)
- 2.3 Phycobilin -Structure and their function (K1, K3)
- 2.4 Light reaction - Photo system I and Photo system II (K3, K4)
- 2.5 Hill's reaction - Emerson effect - Cyclic and non-cyclic photo phosphorylation (K3, K4)
- 2.6 Dark reaction - Calvin' s cycle (K3, K4)

**Unit III: (15 Hours)**

- 3.1 Nitrogen cycle - Ammonification, Nitrification, nitrate reduction (K2, K4)
- 3.2 Denitrification - Symbiotic and non-symbiotic Nitrogen fixation (K2, K4)
- 3.3 Nitrogenase enzyme - Nodule development (K3, K4)
- 3.4 Sulfur cycle - release of sulfur from organic compounds (K1, K2)
- 3.5 Oxidation of sulfur compounds (K1, K4)
- 3.6 Reduction of sulfate Carbon cycle (K3, K4)

**Unit IV: (15 Hours)**

- 4.1 Seed germination - Mobilization of storage lipids during seed germination (K4)
- 4.2 Glyoxylate cycle (K2, K3)
- 4.3 Seed dormancy - Definition of vernalization and devernization (K2, K3)
- 4.4 Cold tolerance in metabolic compounds (K1, K3)
- 4.5 Enzymatic activity for Esterase (K3)
- 4.6 Enzymatic activity for Peroxidases (K3)

**Unit V: (15 Hours)**

- 5.1 Secondary metabolites in plant - Biological role of Phenolic compounds (K4)
- 5.2 Biological role of Terpenoids (K3)
- 5.3 Biological role of Tannins (K3)
- 5.4 Biological role of Lignin (K4)
- 5.5 Biological role of Pectin (K3, K4)
- 5.6 Biological role of Antioxidant compounds (K3, K4)

**[Knowledge Level: K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze]**

**Text Books:**

1. Lehninger, D Nelson and C M Cox - Principles of Biochemistry -WH Freeman and Company Ltd, 4<sup>th</sup> edition -2005
2. Donald Voet and Judith G Voet - Biochemistry- 4<sup>th</sup> edition -2002

**Reference Books:**

1. Hans-Walter Heldt - Plant Biochemistry - Elsevier Publishers, 3<sup>rd</sup> edition 2005
2. Dey PM and Horborne JB - Plant Biochemistry - Harwart Academic Press 1<sup>st</sup> edition - 2000
3. Dubey RC - A Textbook of Biotechnology - S Chand and Co Ltd, 4<sup>th</sup> edition -2006
4. Mathews C K, VanHolde K E – Biochemistry, Pearson Education - 3<sup>rd</sup> edition 2000
5. Jeremy M Berg, J L Tymoczko, L Stryer - Biochemistry - WH Freeman Company, 5<sup>th</sup>

edition 2002

**OPEN EDUCATIONAL RESOURCES (OER):**

1. <https://youtu.be/yXqRsH8Dul4>
2. <https://youtu.be/muDk823-6Yo>
3. <https://youtu.be/D68TxxbGWfo>
4. <https://youtu.be/N9X0Pue6Ffc>
5. <https://youtu.be/7rI-Lyftpd0>

## SEMESTER- VI

### USBCD20 – SBE- IV - MEDICAL LABORATORY TECHNOLOGY

<b>Year/ Sem</b> III/VI	<b>Course Code</b> USBCD20	<b>Title of the Course</b> Medical Laboratory Technology	<b>Course Type</b> Theory	<b>Course Category</b> Skilled Based Elective - IV	<b>H/W</b> 2	<b>Credit</b> 2	<b>Marks</b> <b>100</b> 40+60=100
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#### Objectives:

To make detailed study of the organization and functions of a laboratory

#### Course Outcome (CO):

On completion of the course, the students will be able to;

1. Outline the organization of a laboratory for its efficient functioning
2. Discuss the various methods of blood collection and its preservation
3. Evaluate the significance of urine analysis and its correlation with disease
4. Demonstrate about the blood transfusion method
5. Apply histopathological techniques in detecting abnormal cells

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	H	M	M	L	H
CO 2	H	M	H	H	H	M
CO 3	H	H	M	M	L	M
CO 4	H	M	M	M	L	M
CO 5	H	H	M	M	L	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	M	M	L	H
CO 2	H	M	H	H	H	M
CO 3	H	H	M	M	L	M
CO 4	H	M	M	M	L	M
CO 5	H	H	M	M	L	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

#### Unit-I:

(6 Hours)

- 1.1 Introduction: Code of conduct for laboratory personnel (K1, K2, K3)
- 1.2 Medical care, organization of the clinical laboratory (K1, K2, K3)
- 1.3 Functional components of a laboratory (K1, K2)
- 1.4 Basic needs and role of medical laboratory technician (K1, K2)
- 1.5 Safety aspects in the laboratories (K1, K2, K3)
- 1.6 First aid in the laboratories (K1, K2, K3)

**Unit-II: (6 Hours)**

- 2.1 Specimen collection: Blood collection by vein puncture and capillary puncture (K1, K2, K3)
- 2.2 Equipment and storage of blood collection - transport and waste disposal (K1, K2, K3)
- 2.3 Anticoagulants (K1, K2, K3)
- 2.4 Collection and preservation of urine, sputum, throat swab (K1, K2, K3)
- 2.5 Collection and preservation of stool (K1, K2, K3)
- 2.6 Collection and preservation of CSF specimens (K1, K2, K3)

**Unit-III: (6 Hours)**

- 3.1 Collection and processing of blood for transfusion (K1, K2, K3)
- 3.2 Preparation for blood collection and Blood bank (K1, K2, K3)
- 3.3 Screening, Rejection, Registration of Donors (K1, K2, K3)
- 3.4 Blood Collection procedure, Transportation (K1, K2, K3)
- 3.5 Clinical significance of Blood Transfusion (K1, K2, K3)
- 3.6 Coomb's test (K1, K2, K3)

**Unit-IV: (6 Hours)**

- 4.1 Urine - Normal and Abnormal constituents of urine (K1, K2, K3)
- 4.2 Routine examination of urine- Physical examination -Colour, Appearance, Odour and Specific gravity (K1, K2, K3)
- 4.3 Microscopic examination of urine sediment - organized and unorganized elements – Culture test (24 and 48 Hrs) – Crystal appearance in urine (K1, K2, K3)
- 4.4 Pregnancy test (hCG test) –Typhoid test (Widal test) (K1, K2, K3)
- 4.5 Malaria test (QBC test) (K1, K2, K3)
- 4.6 Tuberculosis test (Mantoux tuberculin skin test) (K1, K2, K3)

**Unit-V: (6 Hours)**

- 5.1 Introduction to histopathology and cytology (K1, K2, K3)
- 5.2 Laboratory equipment for cytology and histology (K1, K2, K3)
- 5.3 Reagents, microscope, microtome, paraffin oven, tissue floating bath, automated tissue processor and slide warmer (K1, K2, K3)
- 5.4 Preparation of tissues for histology (K1, K2, K3)
- 5.5 Collection of specimens for cytological evaluation (K1, K2, K3)
- 5.6 Clinical significance of cytological technique (K1, K2, K3)

**[Knowledge Level: K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze]**

**Note:** The study materials will be provided by the Department

**Text Books:**

1. Ramakrishnan S, Sulochana KN. Manual of Medical Laboratory Techniques. Jaypee Brothers Medical Publishers Pvt.Ltd, 1<sup>st</sup> edition, 2012
2. Sood Ramnik. Concise Book of Medical Laboratory Technology: Methods & Interpretation. Jaypee Brothers Medical Publishers. 2<sup>nd</sup> edition, 2014

**Reference Books:**

1. Kanai L Mukherjee- Medical laboratory technology. Tata MC Graw-hill publishing company limited, Volume-I, 2<sup>nd</sup> edition, 2010
2. Kanai L Mukherjee- Medical laboratory technology. Tata MC Graw-hill publishing company limited, Volume-II, 2<sup>nd</sup>edition, 2010
3. Kanai L Mukherjee- Medical laboratory technology. Tata MC Graw-hill publishing company limited. Volume-III - 2<sup>nd</sup> edition, 2010
4. Talib VH - A Hand book of Medical laboratory technology - CBS publishers, 2004
5. Shivaraja Shankara YM - Laboratory manual for Practical Biochemistry. Jaypee publication, 2<sup>nd</sup> edition, 2013

**Open Educational Resources (OER):**

1. <https://youtu.be/OauxaRXQ2IM>
2. [https://youtu.be/a\\_m76KUab9s](https://youtu.be/a_m76KUab9s)
3. <https://youtu.be/58Gp8Tiui1E>
4. <https://youtu.be/22MHdz5sEuc>
5. <https://youtu.be/qAoa94WBaIc>

**SEMESTER – III – SKILL BASED ELECTIVE -II YEARS**

**USBCAn20 - NUTRITIONAL BIOCHEMISTRY**

<b>Year / Sem</b> II / III	<b>Course Code</b> USBCAn20	<b>Title Of the course</b> Nutritional Biochemistry	<b>Course Type</b> Theory	<b>Course Category</b> Skill Based Elective I	<b>H/W</b> 2	<b>Credits</b> 2	<b>Marks</b> <b>100</b> 40+60=100
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**Objective:**

To make a note on nutrients and its role on metabolism.

**Course Learning Outcomes (CLO)**

On Completion of the course, the students will be able to:

1. Explain the functions of specific nutrients in maintaining health
2. Describe the role of antioxidants
3. Use a balanced diet for diseased conditions
4. Discuss basic principles and practices of common food preservation methods
5. Discuss the various aspects of protein quality

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	M	M	M	L	H
CO 2	H	M	M	H	H	M
CO 3	H	H	H	H	M	M
CO 4	H	H	H	M	H	H
CO 5	H	M	H	M	M	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	H	H	M	H
CO 2	H	H	H	H	H	M
CO 3	H	H	M	M	H	H
CO 4	H	M	H	M	H	H
CO 5	H	H	M	H	M	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

**Unit - I:**

**(6 Hours)**

- 1.1 Definition of food and Nutrition, (K1, K3, K4)
- 1.2 Basic Food groups - Energy yielding foods, Body Building, Protective Foods (K1, K3)
- 1.3 Basic concepts of Energy Expenditure, Unit of Energy, Measurements of Food stuffs by Bomb Calorimeter (K2)
- 1.4 Calorific values of Proteins, Carbohydrates and Fats (K1, K3)

1.5 Basal metabolic rate (K2, K3)

1.6 Factors affecting BMR (K3)

**Unit - II:**

**(6 Hours)**

2.1 Antioxidants-Types (K2, K3)

2.2 Antioxidant rich food (K3)

2.3 Sources and health effects of free radical (K2, K3)

2.4 Dietary fibres (K2, K3)

2.5 Single Cell Proteins (K1, K2)

2.6 Probiotics (K3)

**Unit - III:**

**(6 Hours)**

3.1 Balanced diet - Nutrition in infancy (K2, K3)

3.2 Nutrition in childhood (K2, K3)

3.3 Nutrition in Adolescence (K3)

3.4 Nutrition in Adulthood (K2, K3)

3.5 Nutrition in Elderly person. (K2)

3.6 Nutrition during pregnancy and lactation (K2, K3)

**Unit - IV:**

**(6 Hours)**

4.1 Food processing and preservation: Types (K2, K3)

4.2 Food fortification (K3)

4.3 Sanitation and Hygiene in Food service (K2, K3, K4)

4.4 Food Toxicities - organic toxicants (K2, K3, K4)

4.5 Inorganic toxicants (K2, K3, K4)

4.6 Methods of detecting adulterated food (K3)

**Unit - V:**

**(6 Hours)**

5.1 Protein Malnutrition (Kwashiorkor) Under Nutrition (Marasmus) their preventive and curative measures (K2, K3, K4)

5.2 Protein quality and requirement (K3)

5.3 Dehydration (K2, K3)

5.4 Overhydration (K2, K3)

5.5 Eating disorders -Signs of eating disorder (K3)

5.6 Body mass index (BMI) - obesity (K3)

**Text Books:** The study materials will be provided by the Department

**Reference Books:**

1. Shubangini Joshi - Nutrition and Dietetics - 5<sup>th</sup> edition - Tata McGraw Hill Publication, 1998
2. Mahtab S Bamji, Prasad Rao N, Vinodhini Reddy - Textbook of Human Nutrition - 2<sup>nd</sup> edition - Oxford Publication, 2004
3. Martin Eastwood - Principles of Human Nutrition - 2<sup>nd</sup> edition - Blackwell Publishing, 2003
4. Eleanor, Noss, Whitney - Understanding Nutrition - 8<sup>th</sup> edition - Thomson Publishing, 2002



5. Davidson and Passmore – Human Nutrition and Dietetics – 8<sup>th</sup> edition – Churchill Livingstone

**Open Educational Resources (OER):**

1. [https://youtu.be/Ph1t\\_X1Zch8](https://youtu.be/Ph1t_X1Zch8)
2. <https://youtu.be/iP93MjBStks>
3. [https://youtu.be/\\_Ap4BXhig5c](https://youtu.be/_Ap4BXhig5c)
4. <https://youtu.be/zq6SvljUcfU>
5. <https://youtu.be/QNH79fC421g>

**SEMESTER-I****UABCA20– ALLIED BIOCHEMISTRY-I**

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
I / I	UABCA20	Allied Biochemistry-I	Theory	Allied	4	4	40+60=100

**Objective:**

To acquire knowledge on the structure and the function of biomolecules

**Course Outcomes (CO):**

On completion of the course, the students will be able to,

1. Write about the properties and biological importance of carbohydrates
2. Outline the properties and structural organization of proteins
3. List out the structural components, properties and biological importance of nucleic acids.
4. Classify the biological importance of lipids
5. Identify the role of water- and fat-soluble vitamins for maintaining healthy life

1.

2.

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	M	H	M	M	M
CO 2	H	H	H	M	L	M
CO 3	H	M	L	H	M	H
CO 4	H	M	H	M	M	M
CO 5	H	M	M	H	L	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	M	H	M	M	M
CO 2	H	H	H	M	L	M
CO 3	H	M	L	H	M	H
CO 4	H	M	H	M	M	M
CO 5	H	M	M	H	L	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

**Unit I:****(12 hours)**

- 1.1 Carbohydrates: Structure and biological importance of carbohydrates (K2, K3)
- 1.2 Classification and Physical properties of Carbohydrate –Mutarotation, isomerism (K1,K3)
- 1.3 Chemical Properties- Reactions of Glucose -Oxidation, Reduction and Osazone formation (K3, K4)
- 1.4 Reactions of Fructose: Oxidation with Concentrated Nitric acid, Reduction with sodium amalgam and Osazone formation (K3, K4)
- 1.5 Occurrence, Structure and Properties of Disaccharides (Maltose, Lactose, Sucrose) (K1,K2)

1.6 Polysaccharides (Starch) (K2, K3)

**Unit II: (12 hours)**

2.1 Amino Acids: Occurrence, biological importance of amino acids and structure of Peptide bond (K2, K3)

2.2 Classification of amino acids based on the Structure, Polarity of side chain and Nutritional factor (K1, K3)

2.3 Physical properties (Amphoteric nature and Isoelectric pH) (K4)

2.4 Chemical properties (reactions involving Carboxyl, Amino and both the groups) and color reactions of amino acids (K3)

2.5 Occurrence, biological importance of proteins, physical properties: Denaturation, salting in and salting out effect. Functions and classifications based on shape, solubility, composition and biological function (K2, K3)

2.6 Structural Organization of Proteins - Primary, Secondary (alpha helix and beta pleated sheet), Tertiary and Quaternary structure (K1, K3)

**Unit III: (12 hours)**

3.1 Nucleic Acids: Structural Components and Biological Importance of DNA (K1, K2)

3.2 Structural Components and Biological Importance of RNA (K1, K2)

3.3 Double helical structure of DNA proposed by Watson and Crick (K2, K4)

3.4 Denaturation and Annealing of DNA (K2, K3)

3.5 Structure and role of ribosomal, messenger and transfer RNA (K2, K3, K4)

3.6 Difference between DNA and RNA (K3, K4)

**Unit IV: Lipids: (12 hours)**

4.1 Biological importance of lipids and types of Fatty acid–Saturated and Unsaturated (K2, K3)

4.2 Physical Properties and Chemical Properties–Reactions involving Double bond, Carboxyl and Hydroxyl groups (K2, K3)

4.3 Classification of Lipids - Simple Lipids (Fats, Oils and Waxes) (K3)

4.4 Compound lipids - Phospholipids: Phosphoglycerides (Lecithin, Cephalin and Plasmalogen), Phosphoinositides (Phosphotidyl inositol) and phosphosphingosides (Sphingomyelin), Glycolipids: Cerebrosides, Gangliosides (K1, K4)

4.5 Derived lipids - Sterols (cholesterol - structure and functions) (K1, K3)

4.6 Iodine number, Acid number, Saponification number, Reichert -meissl number of oils (K1, K2)

**Unit V: Vitamins: (12 hours)**

5.1 Vitamins: Fat soluble vitamins A and D - Sources, RDA, Biochemical functions and Deficiency diseases (K1, K3)

5.2 Vitamins: Fat soluble vitamins E - Sources, RDA, Biochemical functions and Deficiency diseases (K2, K3)

5.3 Fat soluble vitamin K - Sources, RDA, Biochemical functions and Deficiency diseases (K2)

- 5.4 Water soluble vitamins B1, B2 and B5- Sources, RDA, Biochemical functions and Deficiency diseases (K1, K3)
- 5.5 Water soluble vitamins B6 and B12 - Sources, RDA, Biochemical functions and Deficiency diseases (K2, K3)
- 5.6 Water soluble vitamin C - Sources, RDA, Biochemical functions and Deficiency diseases (K1, K2)

**Text Books:**

1. Jain J L, Sanjay Jain, Nithin Jain - Fundamentals of Biochemistry, S Chand and Company Ltd, 8<sup>th</sup> edition, 2008
2. Satyanarayana U- Textbook of Biochemistry, Books and Allied Private Ltd, 4<sup>th</sup> edition, 2013

**Reference Books:**

1. Deb AC - Fundamentals of Biochemistry, New Central Book Agency Ltd, 9<sup>th</sup> edition, 2008
2. Ambika Shanmugam - Medical Biochemistry, Wolters Kluwer India Private Ltd, 8<sup>th</sup> edition, 2016
3. Arun Bahl and Bahl B S - Advanced Organic Chemistry, S Chand and Company Ltd, 22<sup>nd</sup> edition, 2003
4. Varley, Alan H Gowen lock - Practical Biochemistry - 6<sup>th</sup> edition - CBS Publishers, 2000
5. Lehninger D Nelson and Cox - Principles of Biochemistry. WH Freeman and Company Ltd, 4<sup>th</sup> edition, 2005.

**Open Educational Resources (OER):**

1. <https://youtu.be/JxK5rZxbyQY>
2. [https://youtu.be/N\\_n0iL3lY2A](https://youtu.be/N_n0iL3lY2A)
3. <https://youtu.be/7AtO8DuWscK>
4. <https://youtu.be/xZdTfhsypjM>
5. [https://youtu.be/uORW0xS-\\_qs](https://youtu.be/uORW0xS-_qs)
6. [https://youtu.be/qmUtK\\_Rf7iY](https://youtu.be/qmUtK_Rf7iY)

## SEMESTER-II

### UABCB20- ALLIED BIOCHEMISTRY-II

Year/ Sem I / II	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
I / II	UABCB20	Allied Biochemistry-II	Theory	Allied	4	4	40+60=100

#### Objective:

To understand the basic of metabolic pathway

#### Course Outcomes (CO):

On completion of the course, the students will be able to

1. Provide a deeper insight into the fundamentals of structure, function and kinetics of enzymes
2. Describe and identify the main characteristics of diagnosis, screening and prognosis of disease
3. Gain knowledge of intermediary metabolism and regulation of individual metabolism
4. Provide the knowledge of the key concepts of endocrine system
5. Understand the role of minerals in health and disease

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	M	H	M	M	M
CO 2	H	H	H	M	L	M
CO 3	H	M	L	H	M	H
CO 4	H	M	H	M	M	M
CO 5	H	M	M	H	L	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	M	H	M	M	M
CO 2	H	H	H	M	L	M
CO 3	H	M	L	H	M	H
CO 4	H	M	H	M	M	M
CO 5	H	M	M	H	L	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

#### Unit I: Enzymes:

(12 hours)

- 1.1 General characteristics, IUB classification, enzyme units (IU and Katal)-  
Active site (K2, K3)
- 1.2 Lock and key and induced fit hypothesis (K1, K2)
- 1.3 Effect of temperature, pH and Substrate concentration on enzyme activity (K2, K3)
- 1.4 Michaelis – Menten equation (K2, K4)
- 1.5 Enzyme Inhibition - Competitive, non-competitive and uncompetitive inhibition  
(kinetics not required) (K2, K4)

1.6 Industrial and Medical applications of enzymes (K1, K3)

**Unit II: Clinical Biochemistry:** (12 hours)

- 2.1 Diabetes mellitus: Types, Causes and Symptoms (K1, K2)
- 2.2 Atherosclerosis: Stages, Risks and Consequences (K1, K3)
- 2.3 Obesity (K2, K3)
- 2.4 Gout (K1, K3)
- 2.5 Protein Calorie Malnutrition (K1, K3)
- 2.6 Marasmus and Kwashiorkor (K3)

**Unit III: Intermediary Metabolism:** (12 hours)

- 3.1 Glycolysis- Pathway and energetics (Regulation not required) (K2, K3)
- 3.2 TCA cycle- energetics (Regulation not required) (K2, K4)
- 3.3 Electron transport chain (K1, K2)
- 3.4 Beta - oxidation of fatty acids (K2, K3)
- 3.5 Urea cycle and Decarboxylation (K1, K3)
- 3.6 Transamination (K1, K2)

**Unit IV: Hormonal Biochemistry:** (12 hours)

- 4.1 Hormones, Receptors, Effectors, Targets–Definition (K1, K2)
- 4.2 Classification based on nature: Protein, steroid and amino acid derived hormone (K3, K4)
- 4.3 Insulin - Biological function and Disorders (K1, K3)
- 4.4 Thyroid hormones- Biological function and Disorders (K2, K3)
- 4.5 Growth hormone- Biological function and Disorders (K1, K2)
- 4.6 Oxytocin and Vasopressin -Biological function and Disorders (K1, K3)

**Unit V: Minerals:** (12 hours)

- 5.1 Calcium - Source, RDA, Role and Deficiency diseases (K1, K2)
- 5.2 Iron - Source, RDA, Role and Deficiency diseases (K1, K3)
- 5.3 Potassium - Source, RDA, Role and Deficiency diseases (K1, K2)
- 5.4 Iodine - Source, RDA, Role and Deficiency diseases (K2, K3)
- 5.5 Sodium - Source, RDA, Role and Deficiency diseases (K1, K2)
- 5.6 Copper - Source, RDA, Role and Deficiency diseases (K1, K2)

**Text Books:**

1. Satyanarayana U- Textbook of Biochemistry - 3<sup>rd</sup> edition - Books and Allied Private Ltd,2008
2. Chatterjea M N, Rana Shinde - Textbook of Medical Biochemistry - 7<sup>th</sup> edition - Jaypee Publishers,2007

**Reference Books:**

1. Lehninger, David Nelson and M Chael M Cox - Principles of Biochemistry, WH Freeman and Company Ltd, 6<sup>th</sup> edition, 2012

2. Jain J L, Sanjay Jain, Nithin Jain - Fundamentals of Biochemistry, S Chand and Company Ltd, 8<sup>th</sup> edition, 2008
3. Trevor Palmer – Enzymes, Harwood Publishing Chichester, 2<sup>nd</sup> edition, 2007
4. Deb AC - Fundamentals of Biochemistry, New Central Book Agency Ltd, 9<sup>th</sup> edition, 2008
5. Ambika Shanmugam - Medical Biochemistry, Wolters Kluwer India Private Ltd, 8<sup>th</sup> edition, 2016

**OPEN EDUCATIONAL RESOURCES (OER):**

1. <https://youtu.be/2S2wCL1A4tg>
2. <https://youtu.be/BCSdVZtWOaM>
3. <https://youtu.be/OHE1ig4k64M>
4. <https://youtu.be/MHOpVy8VcXk>
5. <https://youtu.be/tMsrbSaBSFc>

## SEMESTER I & II

### UABCC20 ALLIED BIOCHEMISTRY PRACTICAL

Year/ Sem I / II	Course Code	Title of the Course Allied Biochemistry Practical	Course Type Practical	Course Category Allied Practical	H/ W 2	Credits 2	Marks 40+60=100
	UABCC20						

#### Objective:

To acquire knowledge on the structure and the function of biomolecules

#### Course Outcomes (CO):

On completion of the course, the students will be able to,

1. Understand the various identification tests for carbohydrates
2. Demonstrate separation of protein by electrophoresis
3. Estimate the amount of biomolecules
4. Discuss the principle and application of centrifugation

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	M	H	M	M	M
CO 2	H	H	H	M	L	M
CO 3	H	M	L	H	M	H
CO 4	H	M	H	M	M	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	M	H	M	M	M
CO 2	H	H	H	M	L	M
CO 3	H	M	L	H	M	H
CO 4	H	M	H	M	M	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

#### 1. Safety Measures in The Laboratory

#### 2. Volumetric Analysis:

1. Estimation of Glucose by Benedicts method
2. Estimation of Glycine by Sorenson's method
3. Estimation of Ascorbic acid using 2,6 Dichlorophenol indophenol
4. Estimation of Iron using potassium permanganate
5. Estimation of Nitrite using sodium hydroxide
6. Estimation of Calcium in Milk



### **3. Qualitative Analysis:**

1. Carbohydrates: Glucose, Fructose, Galactose, Lactose, Maltose, Sucrose, Starch
2. Amino acids: Tyrosine, Tryptophan, Arginine, Cysteine

### **4. Instrumentation: (Demonstration)**

1. Chromatography: Column, Paper, Thin layer
2. Electrophoresis: Vertical and Horizontal
3. Colorimeter
4. UV Spectrophotometer
5. Centrifuge

### **Reference Books:**

1. Jayaraman J - Manuals in Biochemistry - New Age International Publishers,2001
2. Varley, Alan H Gowen lock - Practical Biochemistry - 6<sup>th</sup> edition - CBS Publishers,2002
3. David T Plummer - Practical Biochemistry - 3<sup>rd</sup> edition - McGraw Hill Publishers,2005
4. Sawhney SK and Randhir Singh - Introductory Practical Biochemistry- 2<sup>nd</sup> edition - Narosa Publishers, 2001
5. Kanai L Mukherjee - Medical Laboratory Technology - Volume I - Tata Graw Hill Publication Company Limited,2010

**SEMESTER-V/VI - NON-MAJOR ELECTIVE – III YEARS**

**UGBCAn20– NON-MAJOR ELECTIVE - DISEASES AND TREATMENT**

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/ W	Credits	Marks
III / VI	UGBCAn20	Diseases and Treatment	Theory	Non-major elective - I	3	2	40+60=100

**Objective:**

To provide a basic knowledge about common diseases and its treatment.

**Course Outcomes (CO):**

On completion of the course, the students will be able to,

1. Understand the concept of immune system, blood and bone diseases
2. Know the pathology of liver and lung diseases
3. Acquire a broad knowledge about the deadliest diseases in the world
4. Understand about the pathophysiology of cardiovascular and neurological diseases
5. Learn the various types of skin diseases

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	M	M	L	L	L
CO 2	H	M	M	M	H	M
CO 3	H	H	H	H	M	M
CO 4	H	M	H	M	H	H
CO 5	H	H	H	M	M	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	H	H	M	H
CO 2	H	H	H	H	M	M
CO 3	H	H	M	M	H	M
CO 4	H	M	H	M	M	L
CO 5	H	H	M	H	M	L
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

**Unit - I:**

**(9 Hours)**

- 1.1 Diseases and its types (K1, K3)
- 1.2 Immune system - Types - Innate and Acquired (K3, K4)
- 1.3 Phagocytosis (K1)
- 1.4 Blood: Composition, Sickle Cell Anemia, Iron deficiency Anemia, Leucopenia, Hemolysis (K2, K3)

- 1.5 Bleeding disorder- Hemophilia A and B (K1, K2, K3)
- 1.6 Bone disorder: Osteomalacia, Rickets, Joint Pain (K2, K3)

**Unit - II: (9 Hours)**

- 2.1 Asthma-Types, Causes, Clinical feature and Treatment (K1, K2)
- 2.2 Tuberculosis-Causes, Clinical feature, Prevention and Treatment (K2, K3)
- 2.3 Pneumonia: Causes, Clinical features, Prevention and Treatment (K1, K3)
- 2.4 Jaundice: Causes, Clinical features, Prevention and Treatment (K1, K2)
- 2.5 Hepatitis: Causes, Clinical features, Prevention and Treatment (K2, K3)
- 2.6 Fatty liver: Causes, Clinical features, Prevention and Treatment (K2, K3)

**Unit - III: (9 Hours)**

- 3.1 Diabetes Mellitus- Types, Causes, Clinical features and Treatment (K1, K2)
- 3.2 Cancer-Causes, Clinical features and Treatment (K2, K3)
- 3.3 Types of Tumors (K1, K2)
- 3.4 Oncogenes (K3)
- 3.5 Tumor markers (K1)
- 3.6 AIDS, COVID: Causes, Clinical features, Diagnosis, Prevention and Treatment (K2, K3)

**Unit - IV: (9 Hours)**

- 4.1 Hypertension-Causes, Clinical features, Management (K2, K3)
- 4.2 Heart attack- Causes, Clinical features and Prevention (K3)
- 4.3 Dementia-Types, Causes, Symptoms and Treatment (K3, K4)
- 4.4 Seizures (K2)
- 4.5 Coma (K2)
- 4.6 Autism- Causes, Clinical features and Treatment (K2, K3)

**Unit - V: (9 Hours)**

- 5.1 Anatomy of skin (K3)
- 5.2 Alopecia Areata- Classification, Causes, Clinical features and Treatment (K2, K3)
- 5.3 Hirsutism- Causes, Clinical features and Treatment (K2)
- 5.4 Psoriasis (K2, K3)
- 5.5 Acne Vulgaris (K3)
- 5.6 Dandruff – Causes, Clinical features and Treatment (K2, K3)

**NOTE:** The study materials will be provided by the Department

**Reference Books:**

1. Davidson- Principles and practice of Medicine, Elsevier Publication, 9<sup>th</sup> edition, 2002
2. Richard A Goldsby, Thomas J Kindt, Barabra A Osborne, Janis Kubey- Immunology, W H Freeman and Company, 6<sup>th</sup> edition, 2003
3. Ada P Khan – Diabetes- Causes, Prevention and Treatment- Orient paperbacks, 2004
4. Virender N Sehgal -Diagnosis and treatment of common skin diseases, Jaypee Brothers Medical Pub, 5<sup>th</sup> edition, 2016

5. Chatterjea MN and Rana Shinde -Text Book of Medical Biochemistry - Jaypee Brothers- Medicinal Publishers Ltd,8<sup>th</sup> edition -2012

**Open Educational Resources (OER):**

1. <https://youtu.be/P6bDq8sv91A>
2. <https://youtu.be/p14tLl8rORE>
3. <https://youtu.be/pZQ46fHFm2A>
4. <https://youtu.be/6akhmBqAe2g>
5. [https://youtu.be/Ep\\_nCSEDeAE](https://youtu.be/Ep_nCSEDeAE)
6. <https://youtu.be/rtPQHDWg-6M>
7. <https://youtu.be/ryox2SQKQPU>

**SEMESTER V / VI - NON-MAJOR ELECTIVE – III YEARS**

**UGBCBn20 – NON-MAJOR ELECTIVE: THERAPEUTIC AGENTS**

Year/ Sem III/ V/VI	Course Code UGBCBn20	Title of the Course Therapeutic Agents	Course Type Theory	Course Category Non-major elective - II	H/W 3	Credits 2	Marks 100 40+60=100
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**Objective:**

To impart knowledge on action of drugs in treating diseases.

**Course Outcomes (CO)**

1. Analyze the drug dosage forms and its mechanism of action
2. Assess the role of vaccines in preventing diseases
3. Outline the role of antibiotics and its side effects
4. Acquire knowledge on the medicinal therapy for various health conditions and function of medicinal plants as therapeutics
5. Utilize the importance of first aid in accidents to preserve life

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	H	H	M	H	M
CO 2	H	H	H	H	H	M
CO 3	H	M	H	H	H	H
CO 4	H	M	M	L	H	M
CO 5	H	H	H	H	H	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	H	M	H	M
CO 2	H	H	H	H	H	M
CO 3	H	M	H	H	H	H
CO 4	H	M	M	L	H	M
CO 5	H	H	H	H	H	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

**Unit - I:**

**(9 Hours)**

- 1.1 Drug – Definition – Nature of drug (K1, K2)
- 1.2 Dosage forms of Drugs (K1, K2, K3)
- 1.3 Routes of administration (K1, K2, K3)
- 1.4 Drug Absorption – Drug Distribution (K1, K2, K3, K4)
- 1.5 Termination of Drugs – Elimination of Drugs (K1, K2, K3, K4)
- 1.6 Biotransformation (K1, K2, K3)

**Unit - II: (9 Hours)**

- 2.1 Vaccines - Definition (K1, K2, K3)
- 2.2 Types of vaccines: Attenuated live Vaccine (K1, K2, K3)
- 2.3 Killed Viral Vaccine and examples (K1, K2, K3)
- 2.4 Types of Immunization (K1, K2, K3)
- 2.5 Immunization Schedule for Children (K1, K2, K3)
- 2.6 Immunization under special circumstances (K1, K2, K3)

**UNIT - III:**

**(9 Hours)**

- 3.1 Antibiotics: Definition (K1, K2, K3)
- 3.2 Therapeutic role of Penicillin, Erythromycin, Tetracycline, Streptomycin and Chloramphenicol (K1, K2)
- 3.3 Uses of Antiseptics (K1, K2)
- 3.4 Disinfectant and its types (K1, K2)
- 3.5 Analgesics: Morphine, Aspirin, Paracetamol (K1, K2, K3)
- 3.6 Anaesthetics: Chloroform, Procaine (K1, K2, K3)

**Unit - IV:**

**(9 Hours)**

- 4.1 Medical Therapies for Mouth Ulcer (K1, K2, K3)
- 4.2 Definition, symptoms, causes, diagnosis and treatment of Gallstones (K1, K2, K3)
- 4.3 Definition, symptoms, causes, diagnosis and treatment of Urinary Stones (K1, K2, K3)
- 4.4 Definition, symptoms, causes, diagnosis and treatment of Intestinal Worms (K1, K2, K3)
- 4.5 Medicinal plants: Tulsi, Mint (K1, K2)
- 4.6 Medicinal plants: Neem, Turmeric (K1, K2)

**Unit - V:**

**(9 Hours)**

- 5.1 First Aid: Important Rules of First Aid - First Aid Box (K1, K2, K3)

- 5.2 Cuts and Abrasions – Types of Bleeding (K1, K2, K3)
- 5.3 Types of Fractures (K1, K2, K3)
- 5.4 Types of Burns, Fainting (K1, K2, K3)
- 5.5 Poisonous Bites - Some Common Poisons and their antidotes (K1, K2, K3)
- 5.6 Acid Poisoning - Alkali Poisoning and poisoning by Disinfectant (K1, K2, K3)

**Note:** The study materials will be provided by the Department

**Text Books:**

1. Jayashree Ghosh. A Textbook of Pharmaceutical Chemistry. SS Chand and Company - 5<sup>th</sup> edition , 2014
2. Kanai L Mukherjee. Medical Laboratory Technology. Tata Graw Hill Publication Company Limited - Volume I, 2010

**Reference Books:**

1. Davidson and Henry - Clinical diagnosis by Laboratory Methods. edition -Saunder Publisher, 22<sup>nd</sup> edition, 2011
2. Antia FP and Philip Abraham - Clinical Dietetics and Nutrition - 4<sup>th</sup> edition - OUP India, 2002
3. Jose L Martinez- Ethnobotany application of medicinal plants - CRC Press, 2018
4. Leon Shargel and Andrew B.C Yu. Applied Biopharmaceutics and Pharmacokinetics. McGraw-Hill Education/Medical; 7<sup>th</sup> edition, 2015.
5. Laurence Bruton, Bjorn Knollman and Randa Hilal- Dandan. The Pharmacological Basis of Therapeutics. Kindle 13<sup>th</sup> edition, 2019

**Open Educational Resources (OER):**

1. <https://youtu.be/EakBZqmmfMQ>
2. <https://youtu.be/qrNUPA0xaLY>
3. <https://www.dictionary.com/e/disinfectant-vs-antiseptic/>
4. <https://youtu.be/GErcHVxxK5c>
5. <https://youtu.be/V1YiDNEqOHM>

**FOCUS: HUMAN VALUE (NEEDS)**

**UG B.Sc. VISUAL COMMUNICATION**

**SEMESTER - I**

**UAHCA20 - ALLIED - I HUMAN COMMUNICATION**

<b>Year: I</b> <b>Sem: I</b>	<b>Course Code:</b> UAHCA20	<b>Title of the Course:</b> Human communication	<b>Course Type:</b> Theory	<b>Course Category:</b> Allied	<b>H/W</b> 6	<b>Credits</b> 5	<b>Marks</b> 100
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**Objective:**

- To enable students, understand the basic concepts of Human communication and the evolution of communication skills.

**Course Outcomes (CO)**

The Learners will be able to

CO1: Restating the Basic Concepts of Communication.

CO2: Acquiring Knowledge about the Barriers of Communication.

CO3: Describing the Various types of Verbal and Non Verbal Communication.

CO3: Acquiring in depth knowledge in Inter personal and Intra Personal communication.

CO4: Applying the Communication Skills in Public Speaking.

CO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	H	M	H
CO2	H	H	H	M	H	H
CO3	H	H	H	H	H	H
CO4	H	H	H	H	H	H
CO5	H	H	H	H	H	H

(Low - L, Medium – M, High - H)

CO	PO					
	1	2	3	4	5	6
CO1	H	H	H	H	H	H
CO2	H	H	H	M	H	H
CO3	H	H	H	M	H	H
CO4	H	H	H	M	H	H
CO5	H	H	H	M	H	H

(Low - L, Medium – M, High - H)

### Course Syllabus:

#### Unit I: Introduction to Communication and Language (18 hours)

- 1.1. Human Communication what and why. (K1, K2)
- 1.2. Define Communication(K1, K2, K3)
- 1.3. Functions of Communication. (K1, K2)
- 1.4. Types - Western Models of communication: Aristotle Model of Communication, Lasswell Model, Shannon and Weaver Model of Communication. Eastern Models of Communication:**Sadharanikaran Model**.(K1, K2, K3)
- 1.5. Language: Power and nature of language. (K1, K2, K3)
- 1.6. Gender and culture of language. (K2, K3, K4)

#### Unit II: Verbal and Non-Verbal Communication (18 hours)

- 2.1. Introduction to verbal communication (K1, K2, K3)
- 2.2. Functions of verbal and non- verbal communication. (K1, K2, K3)
- 2.3. Functions of non- verbal communication (K1, K2, K3)
- 2.4. Types of verbal communication (K1, K2, K3)
- 2.5. Types of non - verbal communication - Chronemics, Proxemics, Oculesics, Olfactics, Haptics, Kinesics, Chromatics, Silence (K1, K2, K3)
- 2.6. Characteristics of nonverbal communication (K1, K2, K3)

#### Unit III: Interpersonal and Intra Personal Communication (18 hours)

- 3.1. Characteristics of Intrapersonal Communication. (K1, K2, K3)
- 3.2. Characteristics of Interpersonal Communication (K1, K2, K3)
- 3.3. Relational development and maintenance (K1, K2, K3)
- 3.4. Models of self-disCOsure. (K1, K2, K3)
- 3.5. Group Communication and its characteristics, Types and Goals. (K1, K2, K3, K4)
- 3.6. Patterns of interaction - problem solving in groups. (K1, K2, K3, K4)

#### Unit IV: Listening and Speaking (18 hours)

- 4.1. Listening - Misconceptions about listening.(K1, K2, K3)
- 4.2.Challenges of effective listening.(K1, K2, K3)
- 4.3. Types of informative speaking.(K1, K2, K3)
- 4.4. Informative VS persuasive speaking.(K1, K2, K3)



- 4.5. Techniques of informative speaking.(K1, K2, K3)
- 4.6. Building credibility as a speaker. (K1, K2, K3)

**Unit V: Public Communication (18 hours)**

- 5.1. Publiccommunication.(K1, K2, K3)
- 5.2. Effective public communication.(K1, K2, K3)
- 5.3. Purpose of Public communication (K1, K2, K3)
- 5.4. Speech structure.(K1, K2, K3)
- 5.5. Analyzing and Public speaking. (K1, K2, K3)
- 5.6. Rhetoric, persuasion and propaganda.(K1, K2, K3)

**Books for Study and Reference**

1. David Holmes - Communication Theory:Media Technology and Society - Sage Publication, 2005
2. BerkoD.Wolvin, R. Wolvin - Communicating, 9<sup>th</sup> Edition - Houghton Mifflin Company, 2004
3. Armand Mattelart, MichaleMatterlart-Karl Erik Rosengren - Communication: An Introduction-Sage Publication, 2002
4. KevalJ.Kumar - Mass Communication in India – 4<sup>th</sup> Edition Jaico Publications, 2011.
5. Joseph A. DeVito-Human Communication: The Basic Course-2013 .

**SEMESTER IV – PAPER IV  
UCVCG20 - MEDIA, CULTURE AND SOCIETY**

<b>Year: II</b>	<b>Course Code:</b>	<b>Title of the Course:</b>	<b>Course Type:</b>	<b>Course Category:</b>	<b>H/W</b>	<b>Credits</b>	<b>Marks</b>
<b>Sem: IV</b>	UCVCG20	Media culture and society	Theory	Core	6	4	100

**Objective:**

- To enable the students to understand the theories of media and the impact of media on society and culture

**Course Outcomes (CO)**

The Learners will be able to

CO1: Report and Restate the elements of society and its theories.

CO2: Illustrate the characteristics of culture and its models.

CO3: Analyze the various models of media and Categories the ecological perspective of media audience

CO4: Analyze the various models of media.

CO5: Evaluate the social issues of media.

CO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	M	H	H
CO2	H	H	H	M	H	H
CO3	H	H	H	H	H	H
CO4	H	H	M	H	H	H
CO5	H	H	H	H	H	H

(Low - L, Medium – M, High - H)

CO	PO					
	1	2	3	4	5	6
CO1	H	H	H	H	H	H
CO2	H	H	H	M	H	H
CO3	H	H	H	M	H	H
CO4	H	H	H	M	H	H
CO5	H	H	H	M	H	H

(Low - L, Medium – M, High - H)

### Course Syllabus:

#### Unit I: Concepts of society (18 hours)

- 1.1. The definition of society (K1, K2)
- 1.2. Essential elements of society (K1, K2)
- 1.3. Understanding Mass Media (K1, K2, K3)
- 1.4. Theories of society: the mass society theory, functionalism, uses and Gratification theory, social construction theory (K2, K3, K4)
- 1.5. Communication technology determinism (K3, K4)
- 1.6. The information society. (K3, K4)

#### Unit II: Concept of culture (18 hours)

- 2.1. The definition of culture, characteristics of culture, (K1, K2)
- 2.2 Components of culture, functions of culture. (K1, K2, K3)
- 2.3. Media and popular culture,(K1, K2, K3)
- 2.4. Mass media culture and development (K1, K2, K3)
- 2.5. Development communication, modernization, (K1, K2, K3)
- 2.6. Models of development, dependency/structuralism model.(K1, K2, K3, K4 )

#### Unit III: Media Audience (18 hours)

- 3.1. Reception, (K1, K2)
- 3.2. Audience positioning, (K1, K2,K3)

- 3.3. Subjectivity, Pleasure (K1, K2)
- 3.4. Audience dynamics (K3, K4)
- 3.5. Impact of Media on Society (K1, K2, K3)
- 3.6. Ecological perspectives. (K3, K4)

**Unit IV: Media Analysis: (18 hours)**

- 4.1. Media Text, (K1, K2)
- 4.2. Media Ideology, (K1, K2, K3)
- 4.3. Media and Realism (class, Gender, Race, Age, Minorities, children), (K1, K2, K3, K4)
- 4.4. Approaches to Media Analysis (K1, K2, K3)
- 4.5. Marxist theory, semiotics, (K1, K2, K3)
- 4.6. Psychoanalytic. (K1, K2, K3, K4)

**Unit V: Alternate Media (18 hours)**

- 5.1. Alternative approaches to developments, (K1, K2, K3)
- 5.2. Revival of modernization models, (K1, K2, K3)
- 5.3. Peculiarity of Indian Society, Media in Indian society, (K1, K2, K3, K4)
- 5.4. Internet initiatives for rural development, (K1, K2, K3, K4)
- 5.5. Communication for development (K1, K2, K3)
- 5.6. Sensationalism, 4G, VR, gaming, mobile addiction. (K1, K2, K3, K4)

**Books for Study and Reference:**

1. Mukul Sahay – A Textbook of Communication Media and Society – Wisdom Press, Delhi, 2013.
2. Keval J. Kumar - Mass Communication in India, 4<sup>th</sup> Edition - Jaico Publication, 2011.
3. Graeme Burton - Media and Society Critical Perspectives, 2<sup>nd</sup> Edition - Tata McGraw Hill, 2010
4. Paul Hodkinson, Media, Culture and Society: An Introduction, SAGE Publication Ltd, 2010.
5. Michael O'Shaughnessy, Jane Stadler, Media and Society an Introduction, Oxford University press, 2005
6. Amos Owen Thomas - Media, Culture and Politics Across India, Sage Publication, 2005
7. McQuail Denis – Mass Communication Theory, 4<sup>th</sup> and 5<sup>th</sup> Edition - Sage Publication, 2000.
8. Silverstone Rogers – Why study Media? – Sage Publications - 1999
9. Berger, Asa Author, - Media Analysis Techniques - Sage Publications - 1998.

**SEMESTER IV - ALLIED – IV**  
**UAJLA20 - JOURNALISM**

<b>Year:</b> <b>II</b>	<b>Course Code:</b> UAJLA20	<b>Title of the Course:</b> Journalism	<b>Course Type:</b> Theory	<b>Course Category:</b> Allied	<b>H/W</b> 6	<b>Credits</b> 5	<b>Marks</b> 100
<b>Sem:</b> <b>IV</b>							

**Objective:**

- To introduce the field of Visual Nature of journalism in various media and to develop

journalistic skills in students

**Course Outcomes (CO)**

The Learners will be able to

CO1: Explaining the basic concepts of journalism.

CO2: Analyzing the newspaper organization and its ethical codes.

CO3: Evaluating the role of journalist in the stream of electronic media.

CO4: Classifying the duties and responsibilities of Television journalist.

CO5: Acquiring the Knowledge and process of online journalism.

CO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	M	H	H
CO2	H	H	H	H	H	H
CO3	H	H	H	H	H	H
CO4	H	H	H	H	H	H
CO5	H	H	H	H	H	H

(Low - L, Medium – M, High - H)

CO	PO					
	1	2	3	4	5	6
CO1	H	H	H	H	H	H
CO2	H	H	H	M	H	H
CO3	H	H	H	M	H	H
CO4	H	H	H	M	H	H
CO5	H	H	H	M	H	H

(Low - L, Medium – M, High - H)

**Course Syllabus:**

**Unit I: Introduction to Journalism (18 hours)**

- 1.1. Evolution of Journalism (K1, K2)
- 1.2. News, Types of news, News values (K1, K2, K3)
- 1.3. Structure of news story (K1, K2, K3)
- 1.4. Journalism ethics (K2, K3)

- 1.5. Functions of news (K3, K4)
- 1.6. Journalism in action (finding, choosing, sourcing, gathering, writing, editing and taking news further) (K1, K2, K3, K4)

### **Unit II: Print Journalism (18 hours)**

- 2.1. History of newspaper, Press council (K1, K2, K3)
- 2.2. Code of ethics of Indian journalist (K1, K2, K3)
- 2.3. News agencies (K1, K2,)
- 2.4. Newspaper organizations (ABC – RNI – INS - India Press council (K2, K3, K4)
- 2.5. Style of writing, journalist as investigator, journalist as entertainer (K3, K4)
- 2.6. Difference between newspaper and news magazine, Types of news magazine (K2, K3, K4)

### **Unit III: Electronic Journalism-Radio Journalism(18 hours)**

- 3.1. News flow in broadcast media (K1, K2, K3)
- 3.2. Basics of Radio News, Sources and contacts (K1, K2, K3)
- 3.3. Wire services, Components of News (K1, K2, K3)
- 3.4. Radio news room setup, Radio News Reporting, (K2, K3, K4)
- 3.5. News writing and presentation, Elements of editing, integrating audio bytes (K2, K3, K4)
- 3.6. Radio talks and discussions, radio interviews. Writing for packages- local, regional, national (Voice over, Sound on Tape) (K2, K3, K4)

### **Unit IV: Television Journalism (18 hours)**

- 4.1. TV News room work process (K1, K2, K3)
- 4.2. Basics of TV News, Structuring TV News (K1, K2, K3)
- 4.3. News gathering and writing (K1, K2, K3)
- 4.4. Integrating sound bites, visualization of News, voice-overs (K1, K2, K3)
- 4.5. TV interviews, Process of Live inputs, News Debates News analysis (K1, K2, K3, K4)
- 4.6. Gate keeping, News anchoring (K1, K2, K3)

### **Unit V: Online Journalism (18 hours)**

- 5.1. Newspapers and News reporting in the digital age (K1, K2, K3)
- 5.2. News flow in online media (K1, K2, K3)
- 5.3. Media differences in news coverage (K1, K2, K3)
- 5.4. Organization of online newspapers, Internet news producing strategies (K1, K2, K3, K4)
- 5.5. Future of internet news (K1, K2, K3)
- 5.6. Citizen journalism.(K1, K2, K3)

### **Assignments:**

Students can produce their own production of tabloids, newspapers. Journals, magazine.

### **Books for Study and Reference:**

1. Lynette Sheridan burns-Understanding Journalism 2<sup>ND</sup> edition-Sage publications-2013
2. KevalJ.Kumar - Mass Communication in India - Jaico Publications, 2011.
3. Rajesh Pandey-Visual Journalism-adhyayan publishers and distributors-edition 2009
4. Ajay Dash-Journalistic Writing-Sonali publications-2008
5. Paul Chantter, Peter Stewart – Basic Radio Journalism – Focal Press, 2007.
6. Brad Schultz – Broadcast News Producing - Sage Publication, 2007.
7. B.K. Desh Pandey - Photojournalism – Sonali Publications, 2007.
8. Dr.G.C.Banik – PR and Media Relation - Jaico Publications, 2005.

9. B.N. Ahuja - Theory and Practice of Journalism - Surjeet Publication, Delhi, 2004

**SEMESTER V –PROJECT -1**

**UCVCN20 - DOCUMENTARY PRODUCTION**

<b>Year: III</b>	<b>Course Code: UCVCN20</b>	<b>Title of the Course: Documentary Production</b>	<b>Course Type: Project</b>	<b>Course Category: Core Elective</b>	<b>H/W</b> 3	<b>Credits</b> 5	<b>Marks</b> 100
<b>Sem: V</b>							

**Objective:**

- To train students in short-film making or documentary making by putting into practice the techniques learned in television production and script writing through team work.

Students will specialize in Television production and prepare a group project on any chosen theme. The editing of the project should be done with the editing software that is taught to the students during the course. The master copy of the production in a DVD format must be submitted along with the script and the storyboard.

**Course Outcomes (CO)**

**The Learners will be able to**

CO1: Analyzing the Concepts of Documentary production.

CO2: Implementing the Pre-Production process of Documentary.

CO3: Executing the Production process of Documentary.

CO4: Compile the Post Production Activities according to the Script.

CO5: Presenting the Documentation with Master Copy.

CO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	H	H	H
CO2	H	H	M	H	H	H
CO3	H	H	H	H	H	H
CO4	H	H	M	H	H	H
CO5	H	H	H	H	H	H

**(Low - L, Medium – M, High - H)**

CO	PO					
	1	2	3	4	5	6
CO1	H	H	H	H	H	H
CO2	H	H	H	M	H	H
CO3	H	H	H	M	H	H
CO4	H	H	H	M	H	H
CO5	H	H	H	M	H	H

(Low - L, Medium – M, High - H)

**Exercise:** Documentary - 5 to 7 minutes

1. Proposal Format to be given (5 hours)
2. Script Approval (10 hours)
3. Story Board (15 hours)
4. Documentation (15 hours)

Cognitive Level: K1, K2, K3, K4.

The Internal Evaluation (40 marks) is based on the production process and the model viva.  
The Semester Evaluation (60 marks) is based on the Viva-voce and the quality of the production presented for the Examination.

**SEMESTER VI – PAPER VIII**  
**UCVCO20 - MEDIA LAWS AND ETHICS**

<b>Year:</b> <b>III</b>	<b>Course Code:</b> UCVCO20	<b>Title of the Course:</b> Media laws and Ethics	<b>Course Type:</b> Theory	<b>Course Category:</b> Core	<b>H/W</b> 5	<b>Credits</b> 4	<b>Marks</b> 100
<b>Sem:</b> VI							

**Objective:**

To familiarize students with the framework of laws that apply to the field of electronic as well as print media

**Course Outcomes (CO)**

The Learners will be able to

CO1: Explaining the Concept of Media Laws and Rights

CO2: Reviewing Various Media Acts and its uses.

CO3: Acquire an in depth Knowledge in Media Laws.

CO4: Analyzing the Cyber Laws and Regulations.

CO5: Examine the Media Regulatory Authority Bodies.

CO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	M	H	H
CO2	H	H	M	H	H	H
CO3	H	H	H	H	H	H
CO4	H	H	H	H	H	H
CO5	H	H	H	H	H	H

(Low - L, Medium – M, High - H)

CO	PO					
	1	2	3	4	5	6
CO1	H	H	H	H	H	H
CO2	H	H	H	M	H	H
CO3	H	H	H	M	H	H
CO4	H	H	H	M	H	H
CO5	H	H	H	M	H	H

(Low - L, Medium – M, High - H)



## **Course Syllabus:**

### **Unit I: Media and Freedom (15 hours)**

- 1.1. Concept of media freedom, (K1, K2, K3)
- 1.2. Evolution of Article 19 (a), Rights and Restrictions, (K1, K2, K3)
- 1.3. Theories of the press, (K1, K2, K3)
- 1.4. Rights and Obligations of the media, (K1, K2, K3)
- 1.5. Components of Media Ethics, (K1, K2, K3)
- 1.6. IPC sections 124A, 108, 501, 144. (K1, K2, K3, K4)

### **Unit II: Media Persons and the law (15 hours)**

- 2.1. Defamation, Official Secrets Act, (K1, K2, K3)
- 2.2 Intellectual Property Rights, Issues of Privacy, (K1, K2, K3, K4)
- 2.3 Copyright Act, Obscenity, (K1, K2, K3)
- 2.4 Source Confidentiality, (K1, K2, K3)
- 2.5 Parliamentary Privileges Act, (K1, K2, K3)
- 2.6 Right to Information Act (K1, K2, K3, K4)

### **Unit III: Laws on Media Institutions (15 hours)**

- 3.1 Cable regulation Act, (K1, K2, K3)
- 3.2 Indian cinematography Act 1952, (K1, K2, K3)
- 3.3 Film censorship, (K1, K2, K3)
- 3.4 Contempt of Court, (K1, K2, K3)
- 3.5 Press and Registration of Books Act, (K1, K2, K3)
- 3.6 Regulation related to broadcast media (Indian Broadcasting code) (K1, K2, K3, K4)

### **Unit IV: Cyber Laws (15 hours)**

- 4.1. Laws regulating Foreign Direct Investment in media (K2, K3, K4)
- 4.2. IT Act, Cyber laws in India. (K2, K3, K4)
- 4.3. Cyber security concerns. (K2, K3, K4)
- 4.4. Preventive measures. (K3, K4, K5)
- 4.5. Penalties. (K2, K3, K4)
- 4.6. Network service providers' protection. (K2, K3, K4)

### **Unit V: Regulating Authorities (15 hours)**

- 5.1. Ministry of Information and Broadcasting. (K1, K2, K3)
- 5.2. Directorate of Advertising & Visual Publicity. (K2, K3,)
- 5.3. Directorate of Field Publicity. (K2, K3, K4)
- 5.4. Press Council. (K2, K3, 4k)
- 5.5. Central Board of Film Certification. (K3, K4,)
- 5.6. Advertising Standards Council of India, Telecom Authority. (K3, K4,)

## **Books for Study and Reference:**

1. Paranjyog Guha Thakurta - Media Ethics, 2<sup>nd</sup> Edition - Oxford, 2012.
2. Devesh Kishore, Ganga Sagar Singh - Media Law, Har-Anand Publication, 2012.
3. Brij Kishore Sharma - Introduction to the Constitution of India, 6<sup>th</sup> Edition – PHI - Learning, 2011.
4. Gillian Doyle - Media Ownership - Sage Publications, 2002.
5. Dr. Durga Das Basu - Introduction to the Constitution of India, 19<sup>th</sup> Edition - Wadhwa

Publications, Nagpur, 2001.

6. Cees J Hamelink - The Ethics of Cyber Space - Sage Publications, 2000.
7. Philip Patterson Lee Wilkins – Media ethics issues and cases, 6<sup>th</sup> Edition, Tata Mc Grawhill- 2010
8. Durga Doss Basu, (2000) Press Laws, Central Law Book Agency, Delhi.

**SEMESTER VI – PROJECT – 2**  
**UCVCR20 - SHORT FILM PRODUCTION**

<b>Year:</b> <b>III</b>	<b>Course Code:</b> UCVCR20	<b>Title of the Course:</b> Short Film Production	<b>Course Type:</b> Project - 2	<b>Course Category:</b> Core	<b>H/W</b> 4	<b>Credits</b> 5	<b>Marks</b> 100
<b>Sem:</b> VI							

**Objective:**

- To train students in short-film making or documentary making by putting into practice the techniques learned in television production and script writing

Students will specialize in Television/Radio Production and prepare an individual project on Documentary / short film on any chosen theme. The master copy of the production must be submitted along with the script.

**Course Outcomes (CO)**

The Learners will be able to

CO1: Identifying the Concepts of Short film production.

CO2: Implementing the Pre-Production process of Short film.

CO3: Executing the Production process of short film.

CO4: Compile the Post Production Activities according to the Script.

CO5: Presenting the Documentation with Master Copy.

CO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	M	H	H
CO2	H	H	H	H	H	H
CO3	H	H	H	H	H	H
CO4	H	H	H	H	H	H
CO5	H	H	H	H	H	H

(Low - L, Medium – M, High - H)

CO	PO					
	1	2	3	4	5	6
CO1	H	H	H	H	H	H
CO2	H	H	H	M	H	H
CO3	H	H	H	M	H	H
CO4	H	H	H	M	H	H
CO5	H	H	H	M	H	H

(Low - L, Medium – M, High - H)

**Course Syllabus:**

**Exercises:**

1. Produce a short film with a good concept not exceeding 10 minutes with suitable visual transitions and sound effects.

(Cognitive Level: K1, K2, K3, K4)

The Internal Evaluation (40 marks) is based on the production process and the model viva.

The Semester Evaluation (60 Marks) is based on the Viva-Voce and the quality of the production.

**SEMESTER IV**  
**UCZOE20 – GENETICS AND EVOLUTION**

Year	SEM	Course code		Title of the Course	Course Type	Course Category	H/W	Credits	Marks
II	IV	UCZOE20		Genetics and Evolution	Theory	Core	5	4	100

**Objectives:**

- To learn the basics of Genes, heredity and variations.
- To learn the evolution of life and speciation.

**Course Outcomes:**

**On completion of the course the student will be able to...**

**CO1:**Demonstrate the Mendelian inheritance. Understand the genetic interactions.

**CO2:**Discuss Linkage, Crossing over, cytoplasmic inheritance and sex determination.

**CO3:**Analyze the types of Gene Mutation, Chromosomal aberrations, syndromes and inborn errors in metabolism.

**CO4:**Explain Population Genetics

**CO5:**Recall the theories of Evolution, adaptations and human evolution.

CO/PSO	PSO					
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	H	H	L	M	M	L
CO2	H	H	L	L	L	L
CO3	H	H	L	M	M	M
CO4	H	H	L	M	L	L
CO5	H	H	L	L	M	L

CO/PO	PO					
	PO1	PO2	PO3	PO4	PO5	PO6
CO1	H	H	H	M	H	L
CO2	H	H	H	H	M	L
CO3	H	H	H	M	M	M
CO4	H	H	H	H	M	L
CO5	H	H	H	H	H	M

**Unit 1: Genetics: (15 Hours.)**

1.1: Mendel's work. (K1, K2, K3)

1.2: Monohybrid cross and modifications of ratio. (K1, K2, K3)

1.3: Law of segregation. Law of independent assortment. (K1, K2, K3)

1.4: Dihybrid cross and modifications of ratio. (K1, K2, K3)

1.5: Genetic interactions- Epistasis, duplicate gene, complementary gene, atavism. (K1, K2, K3, K4)

1.6: Multiple alleles, blood grouping in man. (K1, K2, K3, K4)

**Unit 2: (15 Hours)**

2.1: Linkage and Crossing over. (K1, K2, K3, K4)

2.2: Sex linkage. (K1, K2, K3, K4)

2.3: Sex limited genes and sex influenced genes in Man. (K1, K2, K3, K4)

2.4: Cytoplasmic inheritance in Snail and Paramecium. (K1, K2, K3)

2.5: Non-disjunction and Gynandromorphs. (K1, K2, K3, K4)

2.6: Sex determination - Genic balance theory, theory of heterogenesis and environmental factors. (K1, K2, K3)

### **Unit 3:(15 Hours)**

3.1: Gene mutation. (K1, K2, K3, K4)

3.2: Chromosomal aberrations. (K1, K2, K3, K4)

3.3: Genetic disorders – Chromosomal – Autosomal – Down Syndrome. (K1, K2, K3, K4)

3.4: Sex chromosomal – Turner's and Klinefelter's Syndrome. (K1, K2, K3, K4)

3.5: Inborn errors in Metabolism - Phenyl alanine metabolism. (K1, K2, K3, K4)

3.6: Genetic counseling. (K1, K2, K3, K4)

### **Unit 4:(15 Hours)**

4.1: Gene Pool. (K1, K2, K3, K4)

4.2: Applied genetics: Population genetics. (K1, K2, K3, K4)

4.3: Hardy Weinberg Law. (K1, K2, K3)

4.4: Gene frequency, Factors affecting gene Frequency. (K1, K2, K3)

4.5: Pedigree Analysis. (K1, K2, K3, K4)

4.6: Eugenics, Euthenics and Euphenics. (K1, K2, K3)

### **Unit 5: Evolution:(15 Hours)**

5.1: Theories of Evolution – Lamark. (K1, K2, K3)

5.2: Theories of Evolution - Darwin. (K1, K2, K3)

5.3: Mimicry. (K1, K2, K3)

5.4: Isolation and Speciation. (K1, K2, K3)

5.5: Evolution of Man. (K1, K2, K3)

5.6: Geological time. (K1, K2, K3)

### **Books for Study and Reference:**

#### **Textbooks:**

1. Verma P.S. and V.K.Agarwal – Genetics - Chand and Co., New Delhi, 2006
2. Gopalakrishnan T.S. - Itta Sambasivaiah and A.P.Kamalakara Rao – Introduction to Genetics - Himalaya Publishing House, Bombay, 1996.

#### **Reference Books:**

3. Gardner - Principles of Genetics - Wiley Eastern Pvt. Ltd., 8<sup>th</sup> Edition, 2013.
4. Benjamin Lewin - Genes VII- Oxford University Press, 2000.
5. Philip Sheeler, Donald E. Bianchi - Cell and Molecular Biology - John Wiley and Sons, Inc, 3<sup>rd</sup> Edition, 1987.
6. E.D.P.De Robertis, E.M.F.De Robertis Jr. - Cell and Molecular Biology - Lea and Febiger, 2005.
7. T.S Gopalakrishnan, Itta Sambasivaiah, A P Kamalakara Rao -Principles of Organic evolution- Pearl Publications, 1983.
8. Kavitha- Organic Evolution - A.I.T.B.S Publishers India, 2009.
9. N. Arumugam - Organic Evolution - Saras Publications, 2005.
10. Bernard Wood- Human Evolution- A very short Introduction, Oxford University Press, 2005.

#### **E-Resources:**

<https://ghr.nlm.nih.gov>

<https://www.genetics.org>

<https://ncse.ngo>

<http://www.evolutionoftheweb.com>

<https://evolution.berkeley.edu/evolibrary/home.php>

**SEMESTER V**  
**UCZOG20 - DEVELOPMENTAL BIOLOGY**

Year	SEM	Course code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
III	V	UCZOG20	Developmental Biology	Theory	Core	5	5	100

**Objectives:**

- To study the process of development from germ cell to individual.
- To study the recent advancements in the reproductive biology.

**Course Outcomes:**

**On completion of the course the student will be able to...**

**CO1:**Discuss gametogenesis and types of eggs and egg membranes.

**CO2:**Explain the mechanism and physiology of Fertilization, parthenogenesis and cleavage.

**CO3:**Explain gastrulation and organogenesis in mammals.

**CO4:**Discuss human reproduction

**CO5:**Discuss Assisted Reproductive Technologies.

CO/PSO	PSO					
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	H	H	L	M	L	L
CO2	H	H	L	M	L	L
CO3	H	H	L	M	L	L
CO4	H	H	L	M	L	L
CO5	H	H	H	H	H	L

CO/PO	PO					
	PO1	PO2	PO3	PO4	PO5	PO6
CO1	H	M	H	M	L	M
CO2	H	M	H	M	L	M
CO3	H	M	H	M	L	M
CO4	H	M	H	M	L	M
CO5	H	M	H	L	M	M

**Unit 1:(15 Hours)**

1.1: Introduction and history of Developmental Biology. (K1, K2, K3)

1.2: Spermatogenesis. (K1, K2, K3)

1.3: Oogenesis. (K1, K2, K3)

1.4: Eggs-Types of eggs. (K1, K2, K3)

1.5: Polarity and symmetry of eggs. (K1, K2, K3)

1.6: Egg membranes- Extra embryonic membranes in Chick. (K1, K2, K3)

**Unit 2:(15 Hours)**

2.1: Fertilization – Mechanism. (K1, K2, K3)

2.2: Physiology of Fertilization. (K1, K2, K3)

- 2.3: Theories of Fertilization. (K1, K2, K3)
- 2.4: Experimental works of Spemann and Mangold. (K1, K2, K3)
- 2.5: Parthenogenesis. (K1, K2, K3)
- 2.6: Cleavage. (K1, K2, K3)

### **Unit 3:(15 Hours)**

- 3.1: Fate map. (K1, K2, K3, K4)
- 3.2: Morphogenetic movements and Gastrulation in Mammals. (K1, K2, K3)
- 3.3: Organogenesis in Mammal – Development of eye. (K1, K2, K3)
- 3.4: Development of Ear. (K1, K2, K3)
- 3.5: Development of Brain. (K1, K2, K3)
- 3.6: Development of Heart. (K1, K2, K3)

### **Unit 4:(15 Hours)**

- 4.1: Human reproduction - Puberty, Menstrual cycle and Menopause. (K1, K2, K3)
- 4.2: Classification of Placenta. (K1, K2, K3)
- 4.3: Placenta in Mammals. (K1, K2, K3)
- 4.4: Hormonal changes in pregnancy. (K1, K2, K3)
- 4.5: Parturition and Lactation. (K1, K2, K3)
- 4.6: Contraception- Merits- Demerits. (K1, K2, K3)

### **Unit 5:(15 Hours)**

- 5.1: Assisted Reproductive Technology. (K1, K2, K3, K4)
- 5.2: Super Ovulation. Artificial insemination. (K1, K2, K3, K4)
- 5.3: Cryopreservation. (K1, K2, K3, K4)
- 5.4: In Vitro Fertilization (IVF), Test tube babies, Embryo transfer. (K1, K2, K3, K4)
- 5.5: Amniocentesis. (K1, K2, K3, K4)
- 5.6: Bio ethics. (K1, K2, K3, K4)

### **Books for Reference:**

#### **Textbooks:**

1. P.S.Verma, V.K. Agarwal and Tyagi - Chordate Embryology, S.Chand and Co.,New Delhi 2007.
2. Arumugam N. - Developmental Biology- Saras Publication-15<sup>th</sup> edition 2014.

#### **Reference Books:**

3. Balinsky B.L - Introduction to Embryology, 5<sup>th</sup> Edition. First Indian, Reprint 2012.
4. Mohan P.Arora –Embryology- Himalaya Publishing House, 2011.
5. Veer Bala Rastogi, Jayaraj- Developmental Biology, 2<sup>nd</sup> Edition, Kedar Nath Ram Nath. 1994.
6. Robert S. Mcewen- Vertebrate Embryology, 4<sup>th</sup> Edition, Oxford & IBH Publishing Co. 1949.
7. Bradley M.Patten, Bruce M. Carlson-Foundations of Embryology, 3<sup>rd</sup> Edition. Tata McGraw Hill Publishing Company Ltd. 1977.

#### **E-Resources:**

- <https://www.sdbonline.org>
- <https://embryology.med.unsw.edu.au>
- <http://www.embryology.ch>
- <https://human-embryology.org>

## SEMESTER – I

### UAPMA20 – ALLIED I: PRINCIPLES OF MANAGEMENT

<u>Year/ Sem</u>	<u>Course Code</u>	<u>Title of the Course</u>	<u>Course Type</u>	<u>Course Category</u>	<u>H/W</u>	<u>Credits</u>	<u>Marks 100</u>
I/I	UAPMA20	Principles of management	Theory	Allied	5	5	40+60=100

#### OBJECTIVE:

To provide employment opportunities to people, To provide a safe working environment with strict safety measures for its employees to work without fear and anxiety

#### COURSE OUTCOMES(CO):

On completion of the course, the students will be able to:

- 1) Identify and apply appropriate management techniques for managing business
- 2) Have a conceptual knowledge about the planning and decision making.
- 3) Apply the concept of organising for the effective functioning of a management.
- 4) Evaluate leadership style to anticipate the consequences of each leadership style.
- 5) Demonstrate the techniques for controlling and coordination.

CO/PSO	PSO					
	1	2	3	4	5	6
CO1	H	L	H	M	H	M
CO2	H	L	M	H	M	L
CO3	H	M	H	L	L	M
CO4	H	M	M	H	M	M
CO5	M	M	H	H	L	H

CO/PO	PO					
	1	2	3	4	5	6
CO1	M	H	M	H	H	H
CO2	L	M	M	H	H	L
CO3	H	M	M	L	M	L
CO4	H	M	H	M	L	L
CO5	M	H	H	L	H	H



## **UNIT-I**

- 1.1 Management -importance-definition(K1,K2,K3,K4)
- 1.2 Nature-scope-process(K1,K2,K3,K4)
- 1.3 Role & functions-levels-management(K1,K2,K3,K4)
- 1.4 As a science-management(K1,K2,K3)
- 1.5 As a profession-contribution of henry fayol & f.w.taylor in management(K1,K2,K3,K4)

## **UNIT-II**

- 2.1 Planning-nature-importance-types(K1,K2,K3,K4)
- 2.2 Steps in planning-objectives-policies(K1,K2,K3,K4)
- 2.3 Procedures-and methods(K1,K2,K3,K4)
- 2.4 Decision-process of decision making-types of decision(K1,K2,K3,K4)

## **UNIT-III**

- 3.1 Organizing (K1,K2)
- 3.2 Types of organizing structure(K1,K2,K3,K4)
- 3.3 Span of control(K1,K2,K3)
- 3.4 Departmentation(K1,K2,K3)
- 3.5 Informal organization(K1,K2,K3)

## **UNIT-IV**

- 4.1 Authority- delegation - decentralization (K1,K2,K3,K4)
- 4.2 Difference between authority - staffing (K1,K2,K3)
- 4.3 Sources of recruitment (K1,K2,K3)
- 4.4 Selection process - training - directing (K1,K2,K3)
- 4.5 Nature and purpose of directing (K1,K2,K3)
- 4.6 Motivation (Maslow's need hierarchy theory only)(K1,K2,K3,K4)

## **UNIT-V**

- 5.1 Introduction(K1,K2)
- 5.2 meaning of coordination(K1,K2,K3,K4)
- 5.3 Definition of coordination by different authors(K1,K2,K3,K4)
- 5.4 Need/Importance of coordination (K1,K2,K3,K4)
- 5.5 Types of coordination(K1,K2,K3,K4)
- 5.6 Techniques of coordination(K1,K2,K3,K4)
- 5.7 Coordination & cooperation(K1,K2,K3,K4)

## SEMESTER – III

### UCPYF21 - HEALTH PSYCHOLOGY

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks 100
II / III	UCPYF21	Health Psychology	Theory	Core	5	5	40+60=100

#### OBJECTIVES

- To introduce the relationship between psychological factors and physical health
- To learn how to enhance well-being in self and others.

#### COURSE OUTCOMES (CO)

On completion of the course, the students will be able to:

- Explain the basics of Health Psychology and health behaviour
- Understand theoretical models relating to health and change to healthy habits
- Gain knowledge about chronic illness and pain
- Summarize concepts of stress and coping
  
- Determine and Promote healthy behaviour in self and others

CO/PSO	PSO					
	1	2	3	4	5	6
CO 1	H	H	H	M	H	H
CO 2	H	H	H	M	H	H
CO 3	H	H	H	M	M	H
CO 4	H	H	H	M	H	H
CO 5	H	H	H	M	M	H

CO/PO	PO					
	1	2	3	4	5	6
CO 1	L	M	M	H	H	H
CO 2	H	M	H	H	M	M
CO 3	H	H	H	M	L	M
CO 4	H	H	M	M	L	H
CO 5	H	M	M	H	H	H

Low-L, Medium-M, High-H

**UNIT I: INTRODUCTION TO HEALTH PSYCHOLOGY- HEALTH BEHAVIOUR (18 hrs.)**

- 1.1. Health Psychology: The Definition and Need (K1,K2,K3)
- 1.2. An Inter-disciplinary Model- The Bio-psycho social Model(K1,K2,K3,K4)
- 1.3. Patient Practitioner Relationship(K2,K3,K4)
- 1.4. Training for a Career in Health Psychology(K1,K2,K3)
- 1.5. Introduction to Health Behaviour(K2,K3,)
- 1.6. Factors influencing the Practice of Health Behaviour(K2,K3)

**UNIT II: MODELS OF HEALTH BEHAVIOUR (18 hrs.)**

- 2.1. Theoretical Models: Changing Health Habits (K2,K3,)
- 2.2. Health Belief Model(K2,K3)
- 2.3. Theory of Planned Behavior(K3,K4)
- 2.4. Cognitive Behavioral Approaches to Change Health Behavior(K1,K2,K3,K4)
- 2.5. Trans Theoretical Model of Behavior Change(K2,K3,K4)
- 2.6. Avenues for Health Habit Modification(K1,K3)

**UNIT III: CHRONIC ILLNESS AND PAIN (18 hrs.)**

- 3.1. Illness Factors: Onset-Progression-Types of Symptoms(K1,K2,K3,K4)
- 3.2. Quality of Life, Personal issues in Chronic illness(K2,K3,K4)
- 3.3. Coping with Chronic illness, Co-management of Chronic illness (K1,K2,K3)
- 3.4. Psycho-social Interventions(K3,K4)
- 3.5. Pain: Definition-Types of Pain(K1,K2,K3)
- 3.6. Pain Control Techniques, Pain Management(K2,K3,K4)

**UNITIV: STRESS AND COPING (18 hrs.)**

- 4.1. Stress: Definition, Dimensions of Stress, Sources of Chronic Stress(K1,K2,K3,K4)
- 4.2. Theoretical contributions: Lazarus's Appraisal Model(K1,K2,K3)
- 4.3. Flight or Fight Response(K2,K3)
- 4.4. General Adaptation Syndrome(K3,K4)
- 4.5. Tending and Befriending Model(K2,K3,K4)
- 4.6. Coping with Stress, Sources of Stress.(K1,K2,K3,K4)

**UNIT V: PROMOTING HEALTH BEHAVIOUR (18 hrs.)**

- 5.1. Smoking: Effects of Smoking-Reasons for Smoking(K1,K2,K3,K4)
- 5.2. Alcoholism: Effects - Reasons(K2,K3,K4)
- 5.3. Interventions for Reducing Smoking(K3,K4)
- 5.4. Changing Problem Drinking(K3,K4)
- 5.5. Management of Overweight & Obesity(K1,K2,K3,K4)
- 5.6. Effects of Dieting & Physical Activity(K1,K2,K3)

**Text Books:**

1. Boyer, B., & Paharia, I. (2008). *Comprehensive handbook of clinical health psychology*. Edison, NJ: John Wiley & Sons.
2. Taylor, S. (1995). *Health psychology* (6th ed.). Toronto, Canada: McGraw-Hill Ryerson.

**References:**

1. Marks, D., Murray, M., Evans, B., Willig, C., Woodall, C., & Sykes, C.M. (2008). *Health psychology: Theory, research and practice* (2nd ed.). New Delhi, India: Sage Publications.
2. Branmon, L., & Frist, J. (2010). *Introduction to health psychology*; New Delhi, India: Cengage Learning India Pvt Ltd.

## SEMESTER - III

### UCBIG20 – PRINCIPLES OF MANAGEMENT

Year: II SEM: III	Course Code:	Title of The Course:	Course Type:	Course Category:	H/W	CREDITS	MARKS
	UCBIG 20	Principles of Management	Theory	Core	5	4	40+60

### COURSE OBJECTIVES

- To understand the concepts of business management.
- To develop the knowledge of planning and decision making.
- To familiarize the students with principles of the organizing.
- To enable students to understand theories of motivation.
- To impart knowledge on various leadership styles.

### COURSE OUTCOMES (CO)

The Learners will be able to

- Understands the Conceptual idea of management.
- Demonstrate the skills of planning and decision making.
- Aware of principles of organizing.
- Familiarize with motivational factors.
- Identifies various leadership styles.

CO/PO	PO					
	1	2	3	4	5	6
CO1	H	H	M	M	H	H
CO2	M	H	M	M	M	H
CO3	H	H	M	H	H	M
CO4	H	M	H	M	M	H
CO5	H	H	H	M	M	H

**H- HIGH M-MEDIUM L-LOW**

CO/PSO	PSO					
	1	2	3	4	5	6
CO1	H	M	H	H	M	H
CO2	M	H	M	H	H	H
CO3	H	M	H	M	M	H
CO4	M	H	H	H	M	M
CO5	H	M	H	M	H	M

**COURSE SYLLABUS**

**UNIT I**

**(15 Hours)**

- 1.1 Management - Meaning - Definition (K1)
- 1.2 Characteristics, Importance (K1, K2)
- 1.3 Contribution of F.W. Taylor (K1)
- 1.4 Henri Fayol & Peter F Drucker (K1)
- 1.5 Concept of Management by Objectives (M.B.O) and Management by Exception (M.B.E) (K1, K2, K3, K4)
- 1.6 Conceptual idea of Corporate Social Responsibility (C.S.R) (K1, K2, K3, K4)

**UNIT II**

**(15 Hours)**

- 2.1 Planning - Meaning -Definition (K1)
- 2.2 Nature, Importance (K1)
- 2.3 Types of Plans, Importance (K1, K2)
- 2.4 Advantages and Limitations (K1, K2)
- 2.5 Steps in the process planning (K1, K2, K3)
- 2.6 Decision Making - Meaning and Process (K1, K2, K3)

**UNIT III**

**(15 Hours)**

- 3.1 Organizing - Meaning - Nature – Importance (K1)
- 3.2 Principles – Steps (K1, K2)
- 3.3 Types - Line, Functional, Line and Staff, Committee (K1, K2, K3)
- 3.4 Styles - Functions – Importance (K1)
- 3.5 Types and Principles (K1, K2)
- 3.6 Centralization - Decentralization - Differences between both. (K1, K2)

#### **UNIT IV**

**(15 Hours)**

- 4.1 Staffing- Meaning – Importance (K1)
- 4.2 Directing - Meaning - Nature and Characteristics (K1, K2)
- 4.3 Leadership - Meaning - Nature - Styles - Functions – Importance (K1, K2, K3)
- 4.4 Styles - Functions – Importance (K1, K2)
- 4.5 Motivation Meaning -Monetary and Non-Monetary Incentives (K1, K2, K3)
- 4.6 Theories of Motivation - Maslow, McGregor and Herzberg (K1, K2)

#### **UNIT V**

**(15 Hours)**

- 5.1 Communication - Meaning - Nature - Process – Importance (K1, K2)
- 5.2 Essentials of good Communication (K1, K2)
- 5.3 Barriers to Communication - Steps to overcome the barriers. (K1, K2, K3)
- 5.4 Control -Definition - Meaning - Elements - Process. (K1, K2, K3)
- 5.5 Co-ordination – Meaning, Importance, Types, Problems (K1, K2, K3)
- 5.6 Difference between Co-ordination and Co-operation (K1, K2)

#### **BOOKS**

#### **TEXTBOOKS**

Dr. Gupta C.B.-Business Management – Sultan Chand& Sons, New Delhi, (Latest Ed.)

#### **REFERENCE**

1. Prasad L.M. - Management: Principles and Practices - Sultan Chand& CLO., New Delhi, (Latest Ed.)
2. Harold Koontz & Cyril O'Donnell - Essentials of Management - Tata McGraw Hill Publishing Co. Ltd., New Delhi, (Latest Ed.)
3. Sharma R.K. and Shashi K. Gupta - Principles of Management - Kalyani Publishers, New Delhi, (Latest Ed.)
4. Kumkum Mukherjee - Principles of Management - Tata McGraw Hill, New Delhi, (Latest Ed.)

## WEB RESOURCES

1. <https://g.CLO/kgs/1Zu9Pz>
2. <https://Courses.lumenlearning.Com/>
3. <https://study.Com/academy/lesson/principles-of-organizational-management.html>
4. [https://www.mindtools.Com/pages/article/newLDR\\_74.htm](https://www.mindtools.Com/pages/article/newLDR_74.htm)
5. <https://www.toppr.Com/guides/business-studies/directing/Communication>



**USHAC320 - SKILL BASED ELECTIVE III: WELLNESS MANAGEMENT**

<b>Year:</b> II <b>Sem:</b> III	<b>Course Code:</b> USHAC320	<b>Title of the Course:</b> Wellness Management	<b>Course Type:</b> Theory	<b>Course Category:</b> Skill Based Elective III	<b>H/W</b> 2	<b>Credits</b> 2	<b>Marks</b> 60
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**Objectives**

1. To develop skills to improve personality and emotional intelligence.
2. To improve skills in stress management.
3. To enhance skills in time management.
4. To develop skills to manage conflict, crisis and events.
5. To inculcate the habit of healthy eating and art of living.

**COURSE OUTCOMES (CO)**

1. Enhance personality management and emotional intelligence with SWOT analysis.
2. Develop skills to identify stressors to manage stress.
3. Develop skills to give priority to urgent and important work to save time.
4. **Improve skills to manage conflict, crisis, events and responsible use of technology.**
5. Cultivate the habit of taking nutritious diet and exercise for physical fitness.

CO	PO					
	1	2	3	4	5	6
CO1	M	L	H	L	M	H
CO2	M	H	H	L	M	H
CO3	H	M	M	M	H	H
CO4	H	L	H	L	L	M
CO5	M	H	M	M	H	M

CO	PSO					
	1	2	3	4	5	6
CO1	H	H	M	H	L	M
CO2	H	H	M	H	L	L
CO3	H	H	M	H	L	M

<b>CO4</b>	H	H	M	H	L	M
<b>CO5</b>	M	L	M	L	L	M

(Low - L, Medium - M, High - H)

## Syllabus

### Unit I: Self-Management

Self-awareness (K1, K2, K3)  
Dimensions of Personality Development  
(K1, K2, K3) Interpersonal Relations (K1, K2, K3)  
Types of complexes (K1, K2, K3) Emotional  
Intelligence (K1, K2, K3)  
SWOT analysis (K1, K2, K3)

### Unit II: Stress Management

Meaning, definition and sources of stress  
(K1, K2, K3) Lifestyle stressors (K1, K2, K3)  
Symptoms of stress (K1, K2, K3) Guidelines to reduce stress  
(K1, K2, K3)  
Workplace humor (K1, K2, K3) Anger  
Management (K1, K2, K3)

### Unit III: Time Management

Tips for Time Management (K1, K2, K3) Advantages of Time Management  
(K1, K2, K3)  
Common mistakes student make in time management  
(K1, K2, K3) Goals of Time Management (K1, K2, K3)  
Procrastination (K1, K2, K3)  
Techniques of conquering procrastination (K1, K2, K3)

### Unit IV: Situations

**Management** Conflict  
Management (K1, K2, K3)  
Crisis Management (K1,

K2, K3) Event  
Management (K1, K2, K3)

Responsible use of technology (K1,  
K2, K3) Responsible use of social  
media (K1, K2, K3) Change  
management (K1, K2, and K3)

#### **Unit V: Health and Nutrition**

**Management** Need for a  
healthy diet (K1, K2, and K3)  
Balanced diet (K1, K2, K3)

Meditation (K1, K2, K3)  
Simple exercises for a healthy living (K1, K2,  
K3) Lifestyle and disease (K1, K2, K3)  
Health and hygiene (K1, K2, K3)

#### **Textbooks**

1. Richard Regis, Stress Management, National HRD Network Publication, 1<sup>st</sup> Edition.
2. Swati Y. Bhawe, Anger Management, SAGE Publication, 3rd Edition, 2010.

#### **Reference Books**

1. Carol A. Beatty, Building Smart Teams, SAGE Publication, 1<sup>st</sup> Edition, 2004.
2. <https://www.healthline.com/health/balanceddiet#importance>
3. <https://www.gaiam.com/blogs/discover/meditation101techniquesbenefitsandabeginnershowto>

## PCENA20 - CHAUCER AND ELIZABETHAN LITERATURE

<b>Year: I</b> <b>SEM : I</b>	<b>Course Code:</b> PCENA20	<b>Title Of The Course:</b> Chaucer and Elizabethan Age	<b>Course Type :</b> Theory	<b>Course Category :</b> Main	<b>H/W</b> 6	<b>Credits</b>	<b>Marks</b> <b>100</b>
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### Course Outcomes (CO)

On Completion of the Course the Learners will be able to:

1. Recall the historical, social and biographical Influence
2. Discuss the literary significance of the Era
3. Interpret literary texts
4. Analyse the evolution of English Language in Literature
5. Assimilate writing and analytical Skills

CO/PSO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	M	M	M
CO2	H	H	H	M	M	M
CO3	H	H	H	H	M	M
CO4	H	H	H	H	M	H
CO5	H	H	H	H	H	H

**H - High – (3), M - Moderate (2), L - Low (1)**

CO/PO	PO					
	1	2	3	4	5	6
CO1	H	H	H	M	M	M
CO2	H	H	H	M	M	M
CO3	H	H	H	H	H	M
CO4	H	H	H	H	H	M
CO5	H	H	H	H	H	H

**Unit I: Age of Chaucer**                      **K1-K6**                      **(10 hours)**

1.1 The Age of Chaucer: from Anonymity to Individualism (pg 22-50)      **K4, K5, K6**

(Carter, Ronald. & McRae, John. *The Routledge History of Literature in English*. London: Routledge, 2001. Print)

1.2 Geoffrey Chaucer :The Prologue to Canterbury Tales (Detailed Study) -  
The Knight

1.3Geoffrey Chaucer : The Wife of Bath (Detailed Study)

1.4Geoffrey Chaucer: The Pardoner(Detailed Study)

1.5Geoffrey Chaucer: The Miller(Detailed Study)

1.6 Geoffrey Chaucer:The Summoner(Detailed Study)

**Unit II: Renaissance Poetry**                      **K1-K6**                      **(10hours)**

2.1 Introduction to Elizabethan Poetry                      **K4, K5, K6**

2.2 Renaissance Poetry (pg 57-61; 94-101)                      **K4, K5, K6**

(Carter, Ronald. & McRae, John. *The Routledge History of Literature in English*. London: Routledge, 2001. Print)

2.3 Edmund Spenser: Epithalamion(Detailed Study)

2.4John Donne : Canonization(Detailed Study)

2.5John Donne: A Valediction: Forbidding Mourning(Detailed Study)

2.6John Donne: The Flea(Detailed Study)

**Unit III: Prose**                      **K1-K6**                      **(10 hours)**

3.1The Decline of the Renaissance – The Art of Criticism (pg 146-170)                      **K4, K5, K6**  
(Compton-Rickett, Arthur. “A History of English Literature”.New Delhi: UBSPA, 2014. Print)

3.2Renaissance Prose (pg 70-79)                      **K4, K5, K6**  
(Carter, Ronald. & McRae, John. *The Routledge History of Literature in English*. London: Routledge, 2001. Print.)

3.3 The Bible:St. Mark’s Gospel(Detailed Study)

3.4Francis BaconOf Truth (Detailed Study)

3.5 Francis Bacon *Of Revenge, Of Love* (Detailed Study)

3.6 Francis Bacon *Of Unity in Religion* (Detailed Study)

**Unit IV: Drama**

**K1-K6**

**(50 hours)**

4.1 Introduction to Elizabethan Drama

**K4, K5, K6**

4.2 Jacobean Drama - To the Closure of the theatres (1642) (pg 101 – 113) **K4, K5, K6**  
(Carter, Ronald. & McRae, John. *The Routledge History of Literature in English*.  
London: Routledge, 2001. Print.)

4.3 Thomas Kyd *The Spanish Tragedy* (Act I & II Detailed Study) **K4, K5, K6**

4.4 Thomas Kyd *The Spanish Tragedy* (Act III, IV & V Detailed Study)

4.5 John Webster *The Duchess of Malfi* (Act I & II Detailed Study detailed Study) **K4, K5, K6**

4.6 John Webster *The Duchess of Malfi* (Act III, IV & V Detailed Study)

**Unit V: Reading and Interpreting Playwrights**

**K4-K6**

**(10 hours)**

5.1 Introduction to Jacobean Drama

5.2 Thomas Dekker

5.3 Middleton and Rowley

5.4 Beaumont and Fletcher

5.5 Christopher Marlowe

5.6 Edmund Spenser *Prothalamion* (Essential Reading)

**Books for Study:**

1. Compton-Rickett, Arthur. *"A History of English Literature."* New Delhi: UBSPA, 2014. Print
2. Carter, Ronald. & McRae, John. *The Routledge History of Literature in English*. London: Routledge, 2001. Print.

**Books for Reference:**

1. Fermor, Una Ellis. *The Jacobean Drama*. London: University Paperback, 1965.
2. Ford, Boris. *A Guide to English Literature. Vol I The Age of Chaucer*. London: Penguin, 1961.
3. Grierson H.J.C. *Metaphysical Lyrics and Poems of the Seventeenth Century*. Oxford University Press, 1972.
4. Jonathan Dollimore (1984). *Radical Tragedy – Religion Ideology and power in the Drama of Shakespeare and his contemporaries*.
5. Lovelock, Julian. *Donne: Songs and Sonnets*. London: Macmillan, 1989.
6. Rickert, Edith. *Chaucer's World*. London: Columbia University Press, 1964.

7. *Representative Poetry - Vol I*. Canada: The University of Toronto Press, 1941.
8. Jonathan Golding and the Politics of Literature: Jonson, Shakespeare, Donne and their contemporaries John Hopkins.
9. Montrose Louis (1983) Shaping Fantasies Figuration of Gender and Power in Elizabethan Culture Representation 1-2, 61-94





**Unit I** **k2-k6** **(20 Hours)**

- 1.1** Transitions (Pg 1 – 15) The Era of Sincerity (Pg 98-118)  
[Novak, Maximillian E. *Eighteen Century English Literature*. London: Macmillan Publishers, 1983]  
The Century's End (Pg 193-201)  
[from Novak, Maximillian E. *Eighteen Century English Literature*. London: Macmillan Publishers, 1983]

**Poetry – (Detailed Study)**

- 1.2** John Milton Paradise Lost Book IX (1-200 lines)  
**1.3** John Milton Paradise Lost Book IX (201-403 lines)  
**1.4** Alexander Pope Essay on Man- Epistle I (I-V)  
**1.5** Alexander Pope Essay on Man- Epistle I (VI-X)  
**1.6** Thomas Gray Elegy written in the Country Churchyard

**Unit II:** **k2-k6** **(40 Hours)**

- 2.1** The Age of Dryden (Pg 196 – 201)  
[Compton-Rickett, Arthur. *A History of English Literature*. New Delhi: UBSPD. 2014. Print]  
The Century's End (Pg 201-203)  
[from Novak, Maximillian E. *Eighteen Century English Literature*. London: Macmillan Publishers, 1983]

**Drama – (Detailed Study)**

- 2.2** John Dryden All for Love (Act I- III)  
**2.3** John Dryden All for Love (Act IV- V)

**Poetry – (Detailed Study)**

- 2.5** William Blake The Little Black Boy  
**2.6** William Blake The Little Girl is Lost

**Unit III** **k2-k6** **(10 Hours)**

- 3.1** Samuel Johnson: His Time and His Circle (Pg 161-170)  
**3.2** Samuel Johnson: His Time and His Circle (Pg 171-182)  
**3.3** The Age of Disguise (Pg 16 – 36) Mid-century Fiction and Drama (Pg 119-129)  
**3.4** The Age of Disguise (Pg 16 – 36) Mid-century Fiction and Drama (Pg 130-139)  
[Novak, Maximillian E. *Eighteen Century English Literature*. London: Macmillan Publishers, 1983]

### Prose (Detailed Study)

- 3.5 Samuel Johnson Preface to the Plays of Shakespeare (Three Unities)  
3.6 Samuel Johnson Preface to the Plays of Shakespeare (Tragic-comedy)

**Unit IV** **k2-k6** **(10 Hours)**

### Non Detailed Study

#### Poetry

- 4.1 George Herbert The Collar  
4.2 Andrew Marvel The Garden

#### Prose

- 4.3 Jonathan Swift The Battle of Books  
4.4 Addison and Steele Coverley Papers 1-4

#### Drama

- 4.5 William Congreve The Way of the World  
4.6 R.B. Sheridan The Rivals

**Unit V** **k2-k6** **(10Hours)**

**5.1 Fiction** The Century's End (Pg 183-193)

[from Novak, Maximillian E. *Eighteen Century English Literature*. London: Macmillan Publishers, 1983]

#### **5.2 Focused study of writers of personal choice**

Daniel Defoe - Henry Fielding - Samuel Richardson - Laurence Sterne - Horace Walpole - Oliver Goldsmith

#### **5.3 Reading and Interpreting fiction**

**5.4 Formal Elements of Fiction:** Plot Construction, Narrative point of View, Characterization

**5.5 Formal Elements of Fiction:** Setting, Tone, Style, Symbolism and Irony.

#### **5.6 Close Reading & Critical Interpretation:**

To facilitate a deeper understanding of the period when the novel rose to dominate the literary marketplace, defining the form and its modes of representing the private lives of individuals. The critical reading includes the late eighteenth century which saw a medieval revival, in which writers venerated and imitated archaic language and forms. The important development of this movement was the Gothic novel, which typically features such forbidden themes as incest, murder, necrophilia, atheism, and sexual desire.

**Books for study:**

1. Novak, Maximillian E. *Eighteen Century English Literature*. London: Macmillan Publishers, 1983
2. Dryden, John, *All for Love*. Indian Private Limited, Bloomsbury, 2014

**Books for Reference:**

1. Compton-Rickett, Arthur. *A History of English Literature*. New Delhi: UBSPD. 2014. Print
2. Bottrall Margaret. Ed. *Songs of Innocence and Experience*. New York: Macmillan, 1970.
3. Clifford L., James. Ed. *Eighteenth Century English Literature*. London: OUP, 1977.
4. Dobree, Bonamy and Wilson F. P. Ed. *English Literature*. London: OUP, 1963.
5. Hammond, Gerald. Ed. *The Metaphysical Poets*. New York: Macmillan, 1974.
6. Sanders, Andrews. *English Literature*. India: OUP, 2011.
7. Tillyard, E.M. *Milton*. London: Chatto & Windus Ltd, 1966.
8. Bottrall Margaret. Ed. *Songs of Innocence and Experience*. New York: Macmillan, 1970.
9. Clifford L., James. Ed. *Eighteenth Century English Literature*. London: OUP, 1977.
10. Dobree, Bonamy and Wilson F. P. ed. *English Literature*. London: OUP, 1963.
11. Hammond, Gerald. Ed. *The Metaphysical Poets*. New York: Macmillan, 1974.
12. Sanders, Andrews. *English Literature*. India: OUP, 2011.
13. Tillyard, E.M. *Milton*. London: Chatto & Windus Ltd, 1966.

**PCENC20 - CLASSICAL LITERATURE OF THE WORLD**

<b>Year : I Sem : I</b>	<b>Course Code : PCENC20</b>	<b>Title Of The Course : Classical Literature of the World</b>	<b>Course Type : Theory</b>	<b>Course Category : Core</b>	<b>H/W  6</b>	<b>Credits  4</b>	<b>Marks  100</b>
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**Course Outcomes (CO)**

On Completion of the Course the Learners will be able to:

1. Explain the greatness of literary works and their influence on world literature
2. Interpret the best that was known and thought in the world
3. Apply the knowledge gained through plots, characters, themes etc. to real life situations
4. Analyse literary works to understand the world and interpret everyday situations
5. Evaluate human life and experience in texts and in reality

<b>CO/PSO</b>	<b>PSO</b>					
	1	2	3	4	5	6
CO1	H	H	H	M	M	M
CO2	H	H	H	H	M	M
CO3	H	H	H	M	M	H
CO4	H	H	H	H	M	H
CO5	H	H	H	H	H	H

**H - High – (3), M - Moderate (2), L - Low (1)**

<b>CO/PO</b>	<b>PO</b>					
	1	2	3	4	5	6
CO1	H	H	H	M	M	M
CO2	H	H	H	H	M	M
CO3	H	H	H	M	M	H
CO4	H	H	H	H	M	H
CO5	H	H	H	H	H	H

## Course Syllabus

### Unit I

(10 hours)

#### Introduction

1.1 T.S.Eliot What is a Classic? (pg 95 -104) [K2]  
From Walder, Dennis. Literature in the Modern World: Critical Essays and Documents.OUP.  
New York .2004

1.2 Italo Calvino Why read the Classics? (pg 3-9) [K2]  
[Calvino, Italo. *Why Read the Classics?* Great Britain: Penguin Books, 1999]

#### Fiction

##### Focused study of writers of personal choice

1.3 Voltaire,Miguel De Cervantes

1.4 Dostoevsky, Kafka

1.5 Honoré De Balzac, Leo Tolstoy

1.6 Gabriel Garcia Marquez,Herman Hesse

##### Formal Elements of Fiction: [K2,K3,K4]

Plot Construction, Narrative point of View, Characterization,  
Setting, Tone, Style, Themes Symbolism and Irony.

##### Close Reading & Critical Interpretation: [K2,K3,K4]

language, originality, freshness, seminal,  
longevity, identity, eternal truths, grand themes

### Unit II

[K2-K5]

(20 hours)

#### Greek and Roman

2.1 Homer The Odyssey - Book IX, XVIII[Comprehensive view]

2.2 Homer The Odyssey - Book XXIII [Comprehensive view]

2.3 Sophocles Antigone

2.4 Virgil Aeneid Book IV

2.5 Ovid Metamorphosis Book 6

2.6 Aristophanes The Wasps

### Unit III

(20 hours)

#### European [K2-K5]

3.1 Dante The Divine Comedy [Comprehensive view]

3.2 Goethe Faust

3.3 Moliere The Miser

3.4 Albert Camus The Myth of Sisyphus - An Absurd Reasoning (pg 17-32)

3.5 Anton Chekov The Bet, The Student and other stories

3.6 Leo Tolstoy Alyosha the Pot, God Sees the Truth but Waits and other stories

### Unit IV

(20 hours)

#### Indian & Asian

[K2-K5]

- 4.1 Thiruvalluvar Impartiality
- 4.2 Thiruvalluvar Listening, Folly
- 4.3 Vyasa The Mahabharata (Retold by R.K. Narayan)
- 4.4 Murasaki Shibuki The Tale of Genji
- 4.5 Shi Nai'an Water Margin
- 4.6 Panchatantra Tales [Comprehensive view]

**Unit V [K2-K5]**

**(20 hours)**

**Others**

- 5.1 Omar Khayyam The Rubaiyat of Omar Khayyam (Trans. Fitzgerald)
- 5.2 Khalil Gibran Giving, Joy and Sorrow, Crime and Punishment
- 5.3 From The Bible Genesis (Creation) and The Sermon on the Mount
- 5.4 Rumi Be Lost in the call
- 5.5 The Arabian Nights
- 5.6 *Kebra Negast*, or Book of Kings

**Internal Assessment**

Paper Presentation

Group Discussion

Individual Author Study, Analysis and Presentation

**Reference Books**

1. Bhatthercharji, Amal. *Four Essays on Tragedy*. Calcutta: OUP, 1977.
2. Bloom, Harold. *The Rubaiyat of Omar Khayyam*. India: Viva Books, 2007.
3. Canning, John, ed. *Hundred Great Books*. New Delhi: Rupa & co, 1993.
4. Croally, Neil and Roy Hyde. *Classical Literature*. London: Routledge Publications, 2011.
5. Fischer, Carl. *The Myth and Legend of Greece*. Geo A, Pflaum, Publisher, Inc, 1968.
6. Hornstein, Lillian Herlands, Leon Edel and Horst Frenz. *World Literature*. New York: New American Library, 1973.
7. Kirk, G.S. *The Nature of the Greek Myths*. Great Britain: Penguin Books, 1982.
8. McGrady S.H. *Legends and Myths of Greece and Rome*. Longmans.
9. Trawick, Buckner B. *World Literature*. New York: Barnes & Noble, 1967.
10. Narayan, R.K. *The Mahabharata*. New Delhi: Vision Books. 1987. Print.

## PCEND20 - INDIAN LITERATURE IN ENGLISH

<b>Year:</b> <b>I</b>	<b>Course Code:</b> PCEND20	<b>Title of the Course:</b> Indian Literature in English	<b>Course Type:</b> Theory	<b>Course Category:</b> Main	<b>H/W:</b> 6	<b>Credits:</b> 4	<b>Marks:</b> 100
<b>Sem - I</b>							

### Course Outcomes (CO)

On Completion of the Course the Learners will be able to:

1. Recognize the characteristics of major movements and figures of Indian Literature in English through the study of selected literary texts
2. Explain different literary genres; poetry, fiction and non-fiction
3. Interpret different styles of writing: expository, narrative and descriptive
4. Analyse literary concepts and underlying aesthetics
5. Evaluate original writing in English by Indian authors and translated texts from regional languages

CO/PSO	PSO					
	1	2	3	4	5	6
CO1	H	H	M	M	M	M
CO2	H	H	H	H	M	M
CO3	H	H	H	H	M	M
CO4	H	H	H	H	M	M
CO5	H	H	H	H	M	M

**H - High – (3), M - Moderate (2), L - Low (1)**

CO/PO	PO					
	1	2	3	4	5	6
CO1	H	H	M	M	M	M
CO2	H	H	H	H	M	M
CO3	H	H	H	H	M	M
CO4	H	H	H	H	M	M
CO5	H	H	H	H	M	M

## **I) Course Syllabus**

### **Unit I: Poetry**

**(15 Hours)**

1.1 Introduction to English writing before independence		K1,K2
1.2 Kalidas	Meghadhutham (Detailed)	K2,K4
1.3 Toru Dutt	Lotus (Detailed)	K2,K4
1.4 A.K.Ramanujam	Snakes (Detailed)	K2,K4
1.5 Sarojini Naidu	Palanquin Bearers	K2,K4
1.6 IlangoAdikal	Prologue: The Cilappatikaram Tr. R. Parthasarathy	K2,K4

### **Unit II: Poetry**

**(15 Hours)**

2.1 Introduction to English writing since independence		K1,K2
2.2 Critical appreciation of Poetry		K5,K6
2.3 Nizzim Ezekiel	Lawn (Detailed)	K2,K4
2.4 Kamala Das	Old Playhouse (Detailed)	K2,K4
2.5 ArunKolatkarr	Sarpasarita	K2,K4
2.6 Keki N. Daruwalla	Boat Ride along the Ganga	K2,K4

### **Unit III: Post World War Dramatists**

**(25 Hours)**

3.1 Life and Works of Rabindranath Tagore		K1,K2
3.2 Rabindranath Tagore	The King of the Dark Chamber (Detailed)	K5,K6
3.3 Life and Works of Girish Karnad		K1,K2
3.4 Girish Karnad	The Dreams of Tipu Sultan (Detailed)	K5,K6
3.5 Life and Works of Mahesh Dhattani		K1,K2
3.6 Mahesh Dhattani	Dance Like a Man	K5,K6

### **Unit IV: Prose and Criticism**

**(25 Hours)**

4.1 Spiritual Writing		K3,K4
4.2 Autobiography as a genre		K2,K4
4.3 Sri Aurobindo	The Essence of Poetry (Detailed) From Future Poetry	K5
4.4 M.K. Gandhi	My Experiments with Truth (Detailed)	K5
4.5 AnandhaCoomarasamy	The Dance of Siva	K5
4.6 Nirad C. Chaudhari	The Autobiography of an Unknown Indian	K5

### **Unit V: Novelists after 1950's**

**(10 Hours)**

#### **Reading and Interpreting fiction**

5.1 How to read fiction critically		K5
5.2 Introduction to Diasporic Writing		K2



5.3 Focused study of writers of personal choice: K4  
Raja Rao, Mulk Raj Anand, R. K. Narayan, Amitav Ghosh, Vikram Seth, Rohinton Mistry

**5.4 Focused study of women writers of personal choice:** K4  
Anitha Desai, Kamala Markandaya, Shashi Deshpande, Chitra Banerjee Divakaruni, Manju Kapoor

**5.5 Formal Elements of Fiction:** Plot Construction, K6  
Narrative point of View, Characterization, Setting, Tone, Style, Symbolism and Irony

**5.6 Close Reading & Critical Interpretation:** K6  
To enhance a comprehensive understanding of fiction written in English in India since its emergence in the 19th century. Apart from a chronological survey, to focus on the historical and literary origins of the genre, its political and economic underpinnings, the debates and controversies such as Post-independence writing, women and the question of gender, feminist concerns, the idea of 'home', caste, secularism, region and identity, nationalism and postcolonial nation.

**Books for Reference:**

**Secondary Texts:**

1. Arvind Krishna Mehrota Ed ' An Illustrated History of Indian Literature in English' , Permanent Black Publishers, New Delhi, 2003.
2. Ilankoatikal, The Cilappatikaram: The Tale of an Anklet
3. Translated, with an introduction and postscript, by R. Parthasarathy
4. Penguin books, New Delhi, 1993.

## PCENE18 - AMERICAN LITERATURE

<b>Year :2020 SEM :II</b>	<b>Course Code :PCENE18</b>	<b>Title Of The Course : American Literature</b>	<b>Course Type :Theory</b>	<b>Course Category :Core</b>	<b>H/ W 6</b>	<b>CREDIT S 5</b>	<b>MARKS 100</b>
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### Course Outcomes (CO)

On Completion of the Course the Learners will be able to:

1. Interpret American life and Culture against the background of History and Literary development
2. Discuss American Literary artists, who were innovative in their outlook and literary temper.
3. Identify key ideas, representative authors and works, significant historical or cultural events, and characteristic perspectives or attitudes expressed in the literature of different periods or regions
4. Analyze literary works as expressions of individual or communal values within the social, political, cultural, or religious contexts of different literary periods
5. Write research-based critical papers about the assigned readings in clear and grammatically correct prose, using various critical approaches to literature

<b>CO/PSO</b>	<b>PSO</b>					
	1	2	3	4	5	6
CO1	H	H	H	H	M	M
CO2	H	H	H	H	M	M
CO3	H	H	H	H	M	M
CO4	H	H	H	H	H	M
CO5	H	H	H	H	H	H

**H - High – (3), M - Moderate (2), L - Low (1)**

<b>CO/PO</b>	<b>PO</b>					
	1	2	3	4	5	6
CO1	H	H	H	H	M	M
CO2	H	H	H	H	M	M
CO3	H	H	H	H	M	M
CO4	H	H	H	H	H	M
CO5	H	H	H	H	H	H

**Unit I: Transcendentalism And Romanticism (K2,K3,K4) (15 Hours )**

**Poetry**

1.1.Edgar Allan Poe Raven (Detailed)

**Prose**

1.2. Emerson Nature

1.3. Transcendentalism

1.4. Romanticism

1.5.Henry David Thoreau Where I lived and What I lived for (Detailed)

**Short Fiction**

1.6. Nathaniel Hawthorne Young Goodman Brown

**Unit II: The Humanitarian Sensibility And Inevitable Conflict (K3,K4,K5) (15 Hours)**

**Poetry**

2.1. H. W. Longfellow Seaweed (Detailed)

2.2. Russell Lowell A Fable for Critics (846-847)

**Prose**

2.3. Fredrick Douglas Narrative of the Life of Fredrick Douglas –Ch I & II

2.4. Harriet A. Jacobs I.Childhood

II. The New Master And Mistress

III. The Slaves' New Year's Day

From *Incidents in the Life of A Slave Girl*

**Age Of Expansion: Realists And Regionalists**

**Poetry**

2.5. Walt Whitman Beat! Beat! Drums (Detailed)

2.6. Emily Dickinson There came a Day at Summer's Fall (Detailed)

**Unit III -Poets Of Idea And Order (K3,K4,K5) (20 Hours)**

3.1. Wallace Steven Anecdote of the Jar (Detailed)

William Carlos Williams Portrait of a Lady

3.2. Hart Crane To Brooklyn Bridge

Robert Frost Home Burial (Detailed)

3.3. Carl Sandburg Chicago

Ezra Pound The Seafarer

3.4. Amy Lowell Meeting House Hill

**Prose**

Frank Norris A Plea for Romantic Fiction

### **Short Fiction**

- 3.5. Edith Wharton Roman Fever  
3.6. Jack London To Build a Fire

### **Unit IV: Literature Of Socio And Cultural Challenges (K3,K4,K5)**

**(25 Hours)**

#### **Poetry**

- 4.1. E.E.Cummings Anyone who Lived in a Pretty Howtown (Detailed)

#### **Drama**

- 4.2. Eugene O' Neil The Hairy Ape (Detailed)

### **Second World War And Its Aftermath**

#### **Poetry**

- 4.3. Theodore Roethke In a Dark Time  
Elizabeth Bishop The Fish (Detailed)  
4.4. Robert Lowell Reading Myself (Detailed)  
Denise Levertov The Goddess.

#### **Drama**

- 4.5. Tennessee Williams The Streetcar named Desire

#### **Short Fiction**

- 4.6. Eudora Welty The Worn Path

### **Unit V Fiction (K4,K5,K6)**

**(15Hours)**

- 5.1 Plot Construction  
5.2 Narrative point of View  
5.3 Characterization  
5.4 Setting  
5.5 Tone and Style  
5.6 Symbolism and Irony

**Close Reading & Critical Interpretation:** To recognize and understand the ideas of innocence, tradition, salvation, and industrialism and the loss of innocence in the works of well-known American authors whose writings meet the criteria of great literature.

#### **Focused study of writers of personal choice**

Ernest Hemingway- William Faulkner- Mark Twain – John Steinbeck – Edith Wharton – Saul Bellow – John Updike – J.D.Salinger – Nathaniel Hawthorne – Willa Cather – Vladimir Nabokov - Herman Melville – Alice Walker – Harper Lee - Kurt Vonnegut – Sinclair Lewis – James Fenimore Cooper – Norman Mailer – Philip Roth – Don Delilo

### **Books For Study And Reference**

1. Mac Gowan, Christopher. Twentieth- Century American Poetry. London: Blackwell Publishing, 2004.

2. Vinson, James. *Twentieth Century American Literature*. London: Great Writers Students Library. Macmillan, 1980.
3. Donald, Heiney and Lenteil H. *Essentials of Contemporary Literature of the Western World*, (Vol. 3 & 4). USA: Barron's Educational Series.
4. Gray, Richard. *A Brief History of American Literature*. UK: Wiley – Blackwell, 2011.
5. Hoffmann, Daniel. ed. *Harvard Guide to Contemporary American Writing*. London: Oxford University Press, 2004.
6. Massa, Ann. *American Literature in Context*. London and New York: Methuen & Co. Ltd., 1982.

**PCENH20 - WOMEN'S WRITING**

<b>Year:</b> <b>I</b>  <b>Sem –</b> <b>II</b>	<b>Course Code:</b> PCENH20	<b>Title of the Course:</b> Women's Writing	<b>Course Type:</b> Theory	<b>Course Category:</b> Main	<b>H/W:</b> <b>5</b>	<b>Credits:</b> <b>4</b>	<b>Marks:</b> <b>100</b>
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**Course Outcomes (CO)**

On Completion of the Course the Learners will be able to:

1. Discuss aspects of women's writing
2. Explain diversity of women's experiences and their varied cultural moorings
3. Interpret different forms of literature: poetry, fiction, short fiction and critical writings
4. Analyse women's literary history and feminist criticism
5. Evaluate literary works by women

CO/PSO	PSO					
	1	2	3	4	5	6
<b>CO1</b>	H	H	H	H	M	M
<b>CO2</b>	H	H	H	H	M	M
<b>CO3</b>	H	H	H	H	M	M
<b>CO4</b>	H	H	H	H	H	M
<b>CO5</b>	H	H	H	H	H	M

**H - High – (3), M - Moderate (2), L - Low (1)**

CO/PO	PO					
	1	2	3	4	5	6
<b>CO1</b>	H	H	H	H	M	M
<b>CO2</b>	H	H	H	H	M	M
<b>CO3</b>	H	H	H	H	M	M
<b>CO4</b>	H	H	H	H	H	M
<b>CO5</b>	H	H	H	H	H	M

## Course Syllabus

### Unit I: Poetry

(10 Hours)

1.1 Maya Angelou	Still I Rise	K2,K4
1.2 Wendy Cope	Difference of Opinion	K2,K4
1.3 E.B. Browning	From Aurora Leigh	K2,K4
1.4 Sylvia Plath	Mad Girls Love Song	K2,K4
1.5 Carole Ann Duffy	Little Red Cap	K2,K4
1.6 MeenaKandasamy	Apologies of Living on	K2,K4

### Unit II: Prose

(20 Hours)

2.1	Literary Background - Victorian Age- Angel in the House	K2,K4
2.2	Virginia Woolf Profession for Women	K5,K6
2.3	Marx's Critique – Commodity in Capitalism	K1,K2
2.4	Luce Irigrary Women on the Market	K5,K6
2.5	The Stereotypical Idea of Feminism And The Word Feminist	K1,K2
2.6	ChimamandaNgoziAdichie We all should be Feminist	K5,K6

### Unit III: Drama

(25 Hours)

3.1	Oppression of women on the basis of caste, class and gender.	K3,K6
3.2	Susan Glaspell Trifles	K4.K6
3.3	Subaltern Literature	K1, K2
3.4	Mahasweta Devi Rudali	K6
3.5	Poile Sengupta Mangalam	K1, K2
3.6	Poile Sengupta and the Theatre of Protest	K6

### Unit IV

(25 Hours)

## **Feminism**

- 4.1 Historical Background K6  
4.2 Different waves of feminism K2, K4

### **4.3 Terms:** K1, K4

Androcentric; androgyny; biocriticism; biologism/biological; body consciousness-raising; cross-dressing; cyborg; desire; difference; dubbing; écriture feminine; erotics; female affiliation complex; femaling; feminism; gaze; gender; genrer; gothic; gynocratic; gynocritics; immasculation; logic of the same; magic realism; male-as-norm; marginality; masquerade; matriarchy; minoritizing/universalism; muted; normalism; object-relations theory/criticism; other; patriarchy; pejoration; phallogentrism; pleasure; pornoglossia; queer theory; quest narrative; reading position; realism; recruitist; romance; script; second-wave feminism; sexism; standpoint theory; syntagmatic; text and work.

### **Text:**

- 4.4 Elaine Showalter Towards a Feminist Poetics K6  
4.5 Sandra Gilbert & Susan Gubar The Queen's Looking Glass: K6  
Female Creativity, Male Images  
of Women and Metaphor of  
Literary Paternity  
4.6 Analysis: Frailty, Thy Name is Hamlet: K6  
Hamlet and Women

## **Unit V**

### **Fiction**

**(10 Hours)**

#### **Reading and Interpreting fiction**

- 5.1 Critical reading of fiction K6  
5.2 Introduction to Writings of women K2  
**5.3 Formal Elements of Fiction:** Plot Construction, K3,K5  
Narrative point of View, Characterization, Setting,  
Tone, Style, Symbolism and Irony  
**5.4 Close Reading & Critical Interpretation:** To consider K3, K5  
women's fiction in relation to the several determinants  
such as gender, race, power, class and culture.  
**5.5 Focused study of Indian writers of personal choice:** K6  
Arundati Roy - Bharati Mukerjee  
**5.6 Focused study of non-Indian writers of personal choice:** K6



Jane Austen -Virginia Woolf - Charlotte Bronte - Emily Bronte –  
Toni Morrison - Alice Walker - Margaret Atwood- Jean Rhys –  
Zora Neale Hurston

## **Books for Reference**

### **Secondary Texts:**

1. Gilbert, Sandra and Susan Gubar, *The Mad Woman in the Attic: The Women Writer and the Nineteenth Century Literary Imagination*. Yale: Yale Nota Bene, 2000
2. Hansberry Lorraine. *A Raisin in the Sun*. ed, Robert Nermiroff. New York: Vintage Books, 1958
3. Devi, Mahasweta and UshaGanguli, Rudali. Seagull Books, 1997.
4. Wandor, Michelene. *Post-War British Drama: Looking Back in Gender*. London : Routledge, 2001
5. Showalter, Elaine. *Inventing Herself*. New York : Scribner, 2001
6. Eagleton, Mary Ed. *Feminist Literary Theory: A Reader*. 2<sup>nd</sup> edition. Blackwell Publishers: UK, 1994.
7. Jaidka, Manju. *From Slant to Straight: Recent Trends in Women's Poetry*. New Delhi: Prestige Books, 2000.
  
8. *Body Blows Women, Violence and Survival - Three Plays* , Ed.by Poile Sengupta  
Manjula Padmanabhan, Dina Mehta (Author)Seagull Books; 2000th Edition (January 1, 2000)

## PEENC20 - POSTCOLONIAL LITERATURE

<b>Year:</b> <b>I</b>  <b>SEM:</b> <b>II</b>	<b>Course Code :</b> PEENC20	<b>Title Of The Course :</b> Elective II A: Postcolonial Literature	<b>Course Type</b> :Theory	<b>Course Category :</b> Core	<b>H/W</b> <b>5</b>	<b>Credits</b> <b>4</b>	<b>Marks</b> <b>100</b>
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### Course Outcomes (CO)

On Completion of the Course the Learners will be able to:

1. Trace the aspects of subjectivity, race, class and feminism in the Postcolonial space
2. Understand how literature shapes ideas about society and social identities in interaction with other discourses such as history and politics
3. Analyse the history of Colonial rule, liberation movements in various nations and develop a critical thinking on the movement of Postcolonialism
4. Possess a coherent knowledge and a critical understanding of Postcolonial literature and its historical, cultural and theoretical developments.
5. Reinterpret and examine the values of literary texts, by focusing on the contexts in which they were produced, and reveal the colonial ideologies that are concealed within.

CO/PSO	PSO					
	1	2	3	4	5	6
<b>CO1</b>	H	H	H	H	M	M
<b>CO2</b>	H	H	H	H	M	M
<b>CO3</b>	H	H	H	H	H	M
<b>CO4</b>	H	H	H	H	H	M
<b>CO5</b>	H	H	H	H	H	M

**H - High – (3), M - Moderate (2), L - Low (1)**



**Unit III****KI - K5****(20 hours)**

- 3.1. Judith Wright Woman to Man (Detailed Poetry)  
3.2. Gabriel Okara The Mystic Drum (ND)  
3.3 Manjula Padmanabhan Harvest (Drama Act III)  
3.4 Edward Said Crisis: Orientalism  
3.5 Characterization and Setting  
3.6 Amitav Ghosh The Hungry Tide

**Unit IV****K1-K5****(20 hours)**

- 4.1 Jessie MacKay The Grey Company(Detailed Poetry)  
4.2 Derek Walcott A Far Cry from Africa (ND)  
4.3 Jane Harrison Stolen (Drama)  
4.4 Ashcroft, Griffin and Tiffin The Empire Writes Back: Introduction(Prose)  
4.5. Tone, Style, Symbolism  
4.6 Yann Martel Life of Pi

**Unit V:****K1 – K5****(20 Hours)**

- 5.1 David Rubadri An African Thunderstorm(Detailed Poetry)  
5.2 Jane Harrison Stolen (Drama)  
5.3 V.S.Naipaul A House for Mr.Biswas  
5.4 Symbolism and Imagery  
5.5 Irony, Wit, Marginalisation, Rootlessness  
5.6 Salman Rushdie Midnight's Children

**Books for Study**

1. Ashcroft, Bill, Gareth Griffiths and Helen Tiffin - The Empire Writes Back - London and New York: Routledge, 1989.
2. Narasimiah C.D. Anthology of Commonwealth Poetry – Macmillan
3. Okpewho, Esidore –The Heritage of African Poetry- Longman England 1985

### **Books for Reference**

1. Abraham, Taisha. Introducing Postcolonial Theories. New Delhi: Macmillan Publishers India, 2007.
2. Ashcroft, Bill and Pal Ahluwalia. Edward Said. London: Routledge Taylor & Francis Group, 2007.
3. Boehmer, Elleke. Colonial and Postcolonial Literature. New York: OUP, 2005.
4. King, Bruce - New National and Postcolonial Literatures - Clarendon Paperbacks.
5. Nasta, Susheila. Writing Across Worlds. London: Routledge Taylor & Francis Group, 2004.
6. Patke, Rajeev S. Postcolonial Poetry in English. New Delhi: OUP,2006.
7. Sarangi, Jaydeep and Binod Mishra. Explorations in Australian Literature. India: Sarup& Sons, 2006

## PEEND20 - LITERATURE OF THE MARGINALIZED

<b>Year:</b> <b>I</b>	<b>Course Code :</b> PEEND20	<b>Title Of The Course :</b> Literature of the Marginalized	<b>Course Type</b> :Theory	<b>Course Category :</b> Elective II A	<b>H/W</b> <b>5</b>	<b>Credits</b> <b>4</b>	<b>Marks</b> <b>100</b>
<b>SEM:</b> <b>II</b>							

### Course Outcomes (CO)

On Completion of the Course the Learners will be able to:

1. Discuss the concept of ‘marginalized’ and ‘subaltern’ from the socio-cultural and literary context
2. Identify and analyze the themes of place, gender, class, caste, class and nationality in literature from subaltern perspective
3. Apply subaltern theories and critically interpret the nuances of subaltern elements in literature
4. Analyze the voice of marginalized recorded in literature from the global and local context with comparative and analytical methodology
5. Create an oral and written form of interpretation on subaltern literature

CO/PSO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	M	M	M
CO2	H	H	H	H	M	M
CO3	H	H	H	H	M	M
CO4	H	H	H	H	H	M
CO5	H	H	H	H	H	H

**H - High – (3), M - Moderate (2), L - Low (1)**

CO/PO	PO					
	1	2	3	4	5	6
CO1	H	H	H	M	M	M
CO2	H	H	H	H	M	M
CO3	H	H	H	H	M	M
CO4	H	H	H	H	H	M
CO5	H	H	H	H	H	H

## Unit I

**K1 – K5**

**(15 Hours)**

### Poetry

- 1.1 N.D. Raj Kumar (Tamil- India) You, My Demon who Delights in Dancing  
 1.2 Ravi Kumar (Tamil- India) Have you Heard the Rain Crying?  
 1.3 S. Sukirtharani (Tamil- India) Portrait of My Village  
 1.4 Samuel Wagan Watson (Australia) Last exit to Brisbane

### Prose

- 1.5 Arundhati Roy (India) The Doctor and the Saint- Arundhati Roy's  
 Introduction to B.R.Ambedkar's  
 Annihilation of Caste (pg: 1-20)  
 1.6 Arundhati Roy (India) The Doctor and the Saint- Arundhati Roy's  
 Introduction to B.R.Ambedkar's  
 Annihilation of Caste (pg: 21-47)

## Unit II

**K1 – K5**

**(20 Hours)**

### Autobiography, Drama and criticism

#### Criticism

- 2.1 Nellie McKay and Culture in Black The Narrative Self: Race, Politics,  
 American Women's Autobiography – Part I  
 2.2 Nellie McKay The Narrative Self: Race, Politics,  
 and Culture in Black  
 American Women's Autobiography- Part II

#### Autobiography

- 2.3 Urmila Pawar (Marathi- India) The Weave of My Life

<b>2.4 Living Smile Vidhya (Tamil- India)</b>	I am Vidhya; A Transgender's Journey
<b>Drama</b>	
<b>2.5 Hansberry (Afro-American)</b>	A Raisin in the Sun
<b>2.6 Athol Fugard (Africa)</b>	Sizwe Bansi is Dead

**Unit III** **K1 – K5** **(15 Hours)**

**Short Story and Criticism**

<b>3.1 Gayatri Spivak</b>	Translator Foreword- Draupadi by Mahasweta Devi
<b>3.2 Mahasweta Devi</b>	Draupadi (Short Story)
<b>3.3 Gayatri Spivak</b>	Translator's Preface and Afterword to Mahasweta Devi, Imaginary Maps
<b>3.4 The Legend of Pawngvina (oral tales - Mizoram)</b>	Translated by Lalrindiki T. Fanai
<b>3.5 Basil Fernando (Sri Lanka)</b>	When Will They Be Free?
<b>3.6 Flora Nwapa (Nigeria)</b>	Wives at War

**Unit IV Theory and Criticism** **K1 – K5** **(20 Hours)**

<b>4.1 Sharankumar Limbale</b>	Dalit Aesthetics
<b>4.2 David Ludden</b>	Reading Subaltern Studies- Introduction : Part I
<b>4.3 David Ludden</b>	Reading Subaltern Studies- Introduction : Part II
<b>4.4 David Ludden</b>	Reading Subaltern Studies- Introduction : Part III
<b>4.5 David Ludden</b>	Reading Subaltern Studies- Introduction : Part IV
<b>4.6 Dua and Lawrence</b>	Understanding the Indigenous Struggle: The Limitation of Postcolonial Theory (Pg 13-27)

**Unit V Fiction** **K1 – K5** **(20 Hours)**

<b>5.1 Nadia Hashimi (Afghanistan)</b>	The Pearl that Broke its Shell
<b>5.2 Mohja Kahf (Syria)</b>	The Girl in the Tangerine Scarf
<b>5.3 Elif Shafak (Turkey)</b>	Three Daughters of Eve



5.4 Laura Esquivel (Mexico)	Like Water for Chocolate
5.5 Meena Kandasamy (India)	The Gypsy Goddess
5.6 Bama (Tamil)	Sangati

### **Books for study:**

1. Devi, Mahasweta. Bitter Soil (trans) Ipsita Chanda, Calcutta: Seagull, 2009
2. Vidhya, Living Smile. I am Vidhya, New Delhi: Rupa Publication India, 2013
3. Pawar, Urmila. The Weave of My Life, (trans) Maya Pandit, Kolkata: Mandira Sen for STREE, 2018
4. Fugard, Athol. Sizwe Bansi is Dead, London: Oberon Books, 2009
5. Hashimi, Nadia. The Pearl that Broke its Shell, London and New York: Harper Collins, 2015
6. Kahf, Mohja. The Girl in the Tangerine Scarf, London and New York: Carroll & Graf, 2006
7. Shafak, Elif. Three Daughters of Eve, Bloomsbury USA, 2017
8. Esquivel, Laura. Like Water for Chocolate, USA: Random House, 1995
9. Meena Kandasamy, The Gypsy Goddess, London and New York: Harper Collins, 2015
10. Bama, Sangati. (trans) Lakshmi Holmstrom, OUP, 2005
11. Ch. Zama, Margaret (ed). Contemporary Tales from Mizoram, Chennai: Sahiya Akademi, 2017.

### **Books for Reference:**

1. Landry, Donna and Maclean, Gerald (ed) The Spivak Reader Gayatri Chakravorty. New York and London: Routledge, 1996.
2. Limbale, Sharankumar. Towards an Aesthetics of Dalit Literature (trans) Alok Mukherjee, New Delhi: OUP, 2012
3. Ravikumar and R. Azhagaras (ed). The Oxford India Anthology of Tamil Dalit Writing. New Delhi: Oxford University Press, 2012.
4. Amedkar, B.R. Annihilation of Caste. New Delhi: Navayana, 2014
5. Devy, G.N (ed) From Voice and Memory: Indigenous Imagination and Expression. Hyderabad: OBS, 2011
6. McKay, Nellie Y. The Narrative Self: Race, Politics, and Culture in Black American Women's
7. Autobiography. Smith, Sidonie and Watson, Julia (ed). Women, Autobiography, Theory: A Reader,
8. Madison: University of Wisconsin Press, 1998

## PCENI20 - ROMANTIC AND VICTORIAN LITERATURE

<b>Year : II Sem III</b>	<b>Course Code :</b> PCENI20	<b>Title Of The Course :</b> Romantic and Victorian Literature	<b>Course Type :</b> Theory	<b>Course Category :</b> Core	<b>H/W</b> <b>6</b>	<b>Credits</b> <b>4</b>	<b>Marks</b> <b>100</b>
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### Course Outcomes (CO)

On Completion of the Course the Learners will be able to:

1. Explain the nature of Industrial Revolution, the subsequent scientific and material progress and to explore a society that was being re-organized around Science, Factories and Business.
2. Connect the works of the Romantics and Victorians to their social and historical backgrounds and evaluate it
3. Analyse and appreciate the interconnectedness of human life and nature as reflected in works written during the Romantic period.
4. Differentiate the traits of Romanticism and Victorianism in English literature with emphasis on concepts of self, imagination, and the unconscious.
5. Evaluate the impact of Romanticism and Victorianism on the development of English literature, with emphasis on development of literary forms and literary modes of expression.

CO/PSO	PSO					
	1	2	3	4	5	6
CO1	H	H	M	M	M	M
CO2	H	H	H	H	M	M
CO3	H	H	H	H	H	M
CO4	H	H	H	H	H	M
CO5	H	H	H	H	H	M

**H - High – (3), M - Moderate (2), L - Low (1)**

CO/PO	PO					
	1	2	3	4	5	6
CO1	H	H	M	M	M	M
CO2	H	H	H	H	M	M
CO3	H	H	H	H	H	M
CO4	H	H	H	H	H	M
CO5	H	H	H	H	H	M

### Unit I

**K1 – K6**

**(18 hours)**

- 1.1 Introduction to Key Concepts and Ideas of Romantic age Didacticism, Hellenism, Philosophic Content
- 1.2 William Wordsworth      The World is too much with us (Detailed Romantic Poetry)
- 1.3 Robert Browning      Fra LippoLippi (Lines 1- 60) (Detailed Victorian Poetry)
- 1.4 Charles Lamb      Dream Children (Detailed Romantic Prose)
- 1.5 Emily Bronte (Romantic)
- 1.6 Jane Austen (Romantic)

### Unit II

**K1-K5**

**(18 hours)**

- 2.1 Mysticism, Pathetic Fallacy, Pastoral Elegy
- 2.2 S. T. Coleridge      Kubla Khan (Detailed Romantic Poetry)
- 2.3 Matthew Arnold      Dover Beach (Detailed Victorian Poetry)
- 2.4 William Hazlitt      On Going a Journey (Detailed Romantic Prose)
- 2.5 P.B. Shelley      The Cenci (ND Romantic Drama)
- 2.6 Oscar Wilde      The Importance of Being Earnest(Detailed Victorian Drama)

### Unit III

**KI - K5**

**(18 hours)**

3.1. Cult of Beauty, Love of Nature, Supernatural Elements

3.2. Elizabeth Barrett Browning    Sonnets from the Portuguese (ND Victorian Poetry)

3.3 Thomas De Quincey

These preliminary confessions, or introductory  
narrative...Than tempt her to do ought may merit praise  
From Preliminary Confession From De Quincey's  
Confessions of an English Opium-eater  
(ND Romantic Prose)

3.4 John Ruskin            Unto the Last: Chapter 1 The Roots of Honour  
(ND Victorian Prose)

3.5 Thomas Carlyle            Hero Worship: On Poets (Detailed Victorian Prose)

3.6 Walter Scott (Romantic)

#### **Unit IV**

**K1-K5**

**(18hours)**

4.1 Negative Capability, Humanitarianism, Lyricism

4.2 John Keats                    Ode on a Grecian Urn (Detailed Romantic Poetry)

4.3 Christina Rossetti            The Goblin Market (ND Victorian Poetry)

4.4 Charles Lamb                New Year's Eve (Detailed Romantic Prose)

4.5. Formal Elements of Fiction: Plot Construction, Narrative point of View,  
Characterization

4.6 Charles Dickens (Victorian)

#### **Unit V**

**K1 – K5**

**(18 Hours)**

5.1 References to Distant Lands and Past Ages, Melancholy, Truth of Life and Sensuous  
Imagery

5.2 Tennyson                    Morte D'Arthur (Detailed Victorian Poetry)

P. B. Shelley                To a Skylark (Detailed Romantic Poetry)

5.3 Reading and Interpreting fiction, Setting, Tone, Style, Symbolism and Irony

5.4 Oscar Wilde                      The Importance of Being Earnest(Detailed Victorian Drama)

5.5 Thomas Hardy (Victorian)

5.6 George Eliot(Victorian)

### **Books for Study:**

1. Raymond Wilson Ed., *A Coleridge Selection*. London: Macmillan Ltd., 1988.
2. John Beeg Ed., *Coleridge Poems*. An Everyman Paperback Publication, New York, 1973.
3. Edmund Blunden Ed., *The Poems of John Keats*. New Delhi: Rupa Publication, 2000.
4. Philip Wayne Ed., *William Wordsworth's Poems*. London: J. Mocerant & Sons Ltd., 1907.
5. Jane Austen, *Persuasion*. New Delhi: Rupa Co. Publication House, 2000.
6. Thomas Hardy, *Far From the Madding Crowd*. New York: Oxford University Press, 2008.
7. George Eliot, *Middlemarch*. London: Macmillan, 1972.
8. Charles Lamb, *Essays of Elia*. Bombay: Macmillan, 1895.
9. Charles Dickens, *Oliver Twist*. London: Thomas Nelson & Sons Ltd, 1958.
10. John Holloway, *Selected Poems of Percy Bysshe Shelley* – Ed Heinemann. London: Publication, 1960.

### **Books for Reference:**

1. Geoffrey Durant *William Wordsworth* — Cambridge: Cambridge University Press, 1969.
2. Kelvin Everest, *John Keats* — New Delhi: Atlantic Publication, 2002.
3. J.M. Johri, *Shelley's Adonais* –, Bareilly: Prakash Book Depot, 1996
4. *Critical Essays on the poetry of Tennyson*, Ed by John Killbam, Roritledge & Kegan Paul. London: 1960.
5. Geoffrey H. Hastman, *Hopkins: A Collection of Critical Essays*, Ed by. New Delhi: Prentice-Hall of India Pvt Ltd., 1980.
6. Birijadish Prasad, *Arnold's Thesis*, Bombay: B.I. Publication, 1982.
7. Andrew H. Wright, *Jane Austen's Novels*. A Peregrine Book, Middlesex: Penguin Books Ltd., 1953.
8. Rod Mengham, *Charles Dickens*. New Delhi: Atlantic Publishers, 2001.
9. R.T. Jones, *British Authors, Introductory Critical Studies, George Eliot*. London: Cambridge University Press, 1970.
10. Graham Handley, *Middlemarch by George Eliot*. Hampshire: Palgrave Macmillan, 1985.
11. Lance St. John Butler, *Studying Thomas Hardy*. Essex: Longman York Press – 1986.

## PCENJ20 - SHAKESPEARE STUDIES

<b>Year:</b> <b>II</b>	<b>Course Code:</b> PCENJ20	<b>Title of the Course:</b> Shakespea re Studies	<b>Course Type:</b> Theory	<b>Course Category:</b> Main	<b>H/W:</b> <b>6</b>	<b>Credits:</b> <b>5</b>	<b>Marks:</b> <b>100</b>
<b>Sem - III</b>							

### Course Outcomes (CO)

On Completion of the Course the Learners will be able to:

1. Discuss Elizabethan and Jacobean context in connection with the ideas of culture, history and politics of these periods
2. Understand and explore the language, key terms, concepts, dramatic genres and themes of Shakespearean theater thus gaining an insight into the age of Shakespeare.
3. Analyze verbally and in writing Shakespeare as a product of his society
4. Read analytically to determine Shakespeare's purpose, historical and cultural perspective, and use of rhetorical and dramatic strategies in creating a play.
5. Evaluate Shakespeare's contribution to the English language and to the development of the modern drama and recognize various theories of literary criticism applied to Shakespeare's plays

CO/PSO	PSO					
	1	2	3	4	5	6
<b>CO1</b>	H	H	M	M	M	M
<b>CO2</b>	H	H	H	H	M	M
<b>CO3</b>	H	H	H	H	H	M
<b>CO4</b>	H	H	H	H	H	M
<b>CO5</b>	H	H	H	H	H	M

**H - High – (3), M - Moderate (2), L - Low (1)**

CO/PO	PO					
	1	2	3	4	5	6
CO1	H	H	M	M	M	M
CO2	H	H	H	H		M
CO3	H	H	H	H	H	M
CO4	H	H	H	H	H	M
CO5	H	H	H	H	H	M

## Course Syllabus

### Unit I

Introduction to William Shakespeare K1,K2,K3,K4 (10 Hours)

1.1 Life

1.2 Plays & Sonnets

1.3 Language, Audience and Theatre

**(Detailed Plays)**

Tragedy: Hamlet K3.K4,K5 (10 Hours)

1.4 Shakespearean Tragedy

1.5 Sources, Plot, overview and Themes

1.6 Analysis and Criticism

### Unit II

Comedy: Twelfth Night K3,K4,K5 (15 Hours)

2.1 Shakespearean Comedy

2.2 Sources, Plot, overview and Themes

2.3 Analysis and Criticism

Last Plays: The Tempest K3,K4,K5 (15 Hours)

2.4 Tragicomedy

2.5 Sources, Plot overview, Themes and Motifs

## 2.6 Analysis and Criticism

### **Unit III**

K2,K3,K4

(10 Hours)

#### **(Non - Detailed Plays)**

3.1 Roman Plays

3.2 Antony and Cleopatra

3.3 Sources, Plot Overview, Themes and Motifs

3.4 Analysis and Criticism

3.5 Problem Plays

3.6 Measure for Measure

### **Unit IV Shakespeare and Theory I**

K3,K4,K5,K6

(10 Hours)

4.1 Structuralism

4.2 Roman Jakobson – The Structures of Sonnet 129.

4.3 Freudian Psychoanalysis

4.4 Ernest Jones – Reading the Oedipus Complex in Ernest Jones .

4.5 Feminism - Virginia Woolf

4.6 Shakespeare and the Question of Female Authorship. From Jonathan Gil Harris, *Shakespeare and Theory*. New York: Oxford University Press, 2012.

### **Unit V Shakespeare and Theory II**

K3,K4,K5,K6

(10 Hours)

5.1 Marxism

5.2 Karl Marx

5.3 *Timon of Athens* and the Power of Money

5.4 Post Structuralist Marxism

5.5 Terry Eagleton

5.6 Language and Reification in *Macbeth* and *Twelfth Night*.

#### **Books for Study:**

1. Shakespeare, William, Ed Chaise McEacheru. *The Tempest*. New Delhi: The Arden Shakespeare Bloomsbury, 2013.
2. Shakespeare, William, Ed Chaise McEacheru. *Twelfth Night*. New Delhi: The Arden Shakespeare Bloomsbury, 2013.



3. Shakespeare, William, Ed John Wilder. *Antony and Cleopatra*. The Arden Shakespeare New Delhi: Bloomsbury, 2013.
4. Shakespeare, William, Ed By J.W. Lever. *Measure for Measure*. London & New York: Routledge, 1988.
5. Shakespeare, William, Ed by Ann Thompson and Neil Taylor. *Hamlet*. New Delhi: Bloomsbury, 2006.
6. Shakespeare, William. *Antony and Cleopatra*. New York: Palgrave Macmillan, 1987.
7. Jonathan Gil Harris, *Shakespeare and Theory*. New York: Oxford University Press, 2012.

### **Books for Reference**

1. Dover Wilson, *What Happens in Hamlet*. London: Cambridge University, 1974.
2. G.K. Stead, *Measure for Measure: A Selection of critical Essays*. London: Macmillan, 1971.
3. Nigel Alexander, *Shakespeare's Measure for Measure*. London: Studies in English Literature Edward Arnold, 1986.
4. AniaLoomba, *Shakespeare, Race and Colonization*. New York: Oxford University Press 2012.
5. John Russell Prown, *Shakespeare's Antony and Cleopatra*. London: Macmillan Press Ltd., 1977.
6. Diana Henderson Ed. *Alternative Shakespeare 3*. Oxford: Routledge Abington, 2008.
7. A.C. Bradley, *Shakespeare Tragedy*. New Delhi: Atlantic Publishers and Distributers Pvt. Ltd., 2010.
8. Robin Lee, *Shakespeare's Antony and Cleopatra – Studies in English Literature*. London: Edward Arnold, 1984.



## Unit I

K2-K5

(18 hours)

### 1.1 Introduction

Jonathan Culler

Literary Theory (Pg. 201 – 216)

From Joseph Gibaldi *Introduction to Literary Scholarship in Modern Languages and Literatures*

### Structuralism and Post structuralism

#### 1.2 Historical Background - Structuralism

#### 1.3 Historical Background – Post Structuralism

**1.4 Terms/ Concepts:** Allography; arbitrariness; author; bricoleur; convention; deviation; diachronic and synchronic; diacritical; difference; digital and analogic communication; écriture; formulaic literature; function; functions of language; heterobiography, homology; hymen; langue and parole; linguistic paradigm; nominalism; post-structuralism; reference; sign; speech; structure in dominance; syntagmatic and paradigmatic; structuralism; textualist; transgressive strategy.

#### 1.5 Structuralism

**Text:** Roland Barthes                      The Death of the Author

**Analysis**                                      Micheal Ryan pg. 25-31

#### 1.6 Poststructuralism

**Text:** Jacques Derrida                      Structure, Sign and Play in the Discourse of Human Sciences

**Analysis**                                      Micheal Ryan Pg.83-84

## Unit II

K2-K5

(18 hours)

### Psychoanalysis

#### 2.1 Historical Background

**2.2 Terms:** Abject; alterity; archetypal criticism; arche-writing; body; censorship; chora; condensation and displacement; contiguity; cross talk; desire; disavowal; double-bind; fetishism; figure and ground; fort/da; gaze; Gestalt; hommelette; imaginary/symbolic/real; intersubjectivity; jouissance; linguistic paradigm; méconnaissance; mirror stage; *Nachtraglichkeit*; Name-of-the – Father; object-relations theory/ criticism; objet a/objet A; other; overdetermination; panoptism/ panopticism; phallogentrism; pleasure; point de capiton; primary process, projection characters; psychoanalytic criticism; repression; revisionism; schizoanalysis; scopophilia/scopophobia; scotomization; sinthom; slippage; solution from above/below; subject and subjectivity; symptom; syntagmatic and paradigmatic; topographical model of the mind, transference; True-Real; Unconscious.

**2.3 Text:**Harold Bloom                      Poetry, Revisionism and Repression

**Analysis:***Young Goodman Brown: Id versus Superego*

Guerin Wilfred L., Earle Labour et al. *A Handbook of Critical Approaches to Literature*. New York: OUP, 1999

## **Marxism**

### 2.4 Historical Background

**2.5 Terms:** Absence; against the grain; alienation; alienation effect; always-already; aura; base and superstructure; class; coherence; co-optation; Copernican revolution; critical theory; dialectics; economism; English; epistemological break; fetishism; flaneur; formation; Frankfurt school; gest; hegemony ; homology; ideologeme; ideology; incorporation; instance; intellectuals; interpellation; legitimation; literary mode of production; Marxist literary theory and criticism; materialism; moment; Montage; myth; popular; praxis; problematic; realism; reification; slippage; structure in dominance; structure of feeling; subject and subjectivity;

### **2.6 Text:** Marxist Criticism Terry Eagleton

From Welder, Dennis. *Literature in the Modern World: Critical Essays and Documents*. Reprinted. New York: Oxford UP, 2008. Print.

Analysis: Silence, Violence and Souther Agrarian Class Conflict in William Faulkner's *Barn Burning*

## **Unit III**

**K2-K5**

**(18 hours)**

## **Post colonialism**

### 3.1 Historical Background

**3.2 Terms:** Affiliation; Africanist/Nationalist; Alterity; Authenticity; Bolekaja Critics; Comprador; Contamination; Creolization; Diaspora literature; Disidentification; Double Colonization; Double consciousness; double-voiced; dubbing; ethnoscope; Eurocentric; fictograph; hybrid/hybridization; imagined community; liminal; marvellous realism; master narrative; mediascape; mimicry; nation/nationalism; nativism; négritude, neo-Tarzanism; Nomad; orature; orientalism; other; passing; postcolonialism; relativism; relexification; subaltern; transculturation; west.

### **3.3 Text:** Chinua Achebe Colonialist Criticism

From Chinua Achebe. *Hope and Impediments. Selected Essays 1965-87*

**Analysis:** Colonialism and Authenticity: V.S.Naipaul's *The Mimic Men*  
From *The Empire Writes Back* –Pg 87-90

## **Multiculturalism**

### 3.4 Historical Background

**3.5 Terms** Binary/binarism; bricoleur; culture; cultural studies; fiction; formulaic literature; myth; New Historicism and cultural materialism; Sapir-Whorf hypothesis; script; structures of feeling; thick description/thin; utterance.

### **3.6 Text:** Overlapping Territories, Intertwined Histories – Edward W. Said

**Analysis:** Victims Already: Violence and Threat in Nadine Gordimer's *Once upon a Time*

## **Unit IV**

**(18 hours)**

## **Reader Response Theory**

#### 4.1 Historical Background

**4.2 Terms/ Concepts** Appreciation; code; coduction; cross talk; ecological validity, exegesis; genre; hermeneutics; ideation; interpretation; intrepretative communities; interrogate; intersubjectivity; jouissance; meaning and significance; ontological status; open and closed texts; oppositional reading; parabolic text; performance; politeness; prepublication/postpublication reading; punctuation; readerly and writerly text; readers and reading; reading community; reading position; reception theory; self consumingartcraft; sense and reference; sub-text; suspense; theme and thematics; topic; transactional theory of the literary work.,

#### 4.3 Stanley Fish

Is There a Text in the Class?

### **New Historicism**

#### 4.4 Historical Background

**4.5 Terms:** Circulation; emplotment; energy; exchange; New Historicism and Cultural Materialism; resonance; structure

#### 4.6 Text: Professing the Renaissance: The Poetics and Politics of Culture – Louis A. Montrose

**Analysis:** To His Coy Mistress: Implied Culture versus Historical Fact

### **Unit V**

**K2-K5**

**(18 hours)**

### **Ecocriticism**

#### 5.1 Historical Background

#### **5.2 Terms**

Ecofeminism, Ecology, Deep Ecology, Eco-consciousness, Logocentricism, Phallogentrism, Ecosystem, Biosphere or Ecosphere, Anthropocentric, Biocentric, Environmental Crisis, Symbiosis, Nature and Culture, Environmental Psychology, Ecocentric Egalitarianism, Ecosion, Green theory, Eco poetics, Eco-centric values, Apocalypse, Ozone depletion, Global warming, Deforestation, Survival of the fittest, Sense of self and Sense of place, Landscape theory.

#### **5.3 Text:**

Glen. A. Love. Revaluing Nature: Toward an Ecological Criticism - (Page 225-238)

**Analysis:** Walden: H.D.Thoreau- American pastoral Pg 48-56

From Greg Garrard. *Ecocriticism*. Routledge. London and New York. 2007.

### **Memory Studies**

#### **5.4 Historical Background**

Astrid Erll

Cultural Memory Studies: An Introduction

1. Towards a Conceptual Foundation for

Cultural Memory Studies (Over the past two decades.. complemented by other modes).



1. Hawkes, Terence. *Structuralism and Semiotics*. London and New York: Routledge, 1977.
2. Holquist, Michael. *Dialogism*. London and New York: Routledge, 1990.
3. Allen, Graham. *Roland Barthes*. London and New York: Routledge, 2003.
4. Barry, Peter. *Beginning Theory*. Manchester and New York: Manchester University Press, 2002.
5. Belsey, Catherine. *Critical Practice*. London and New York: Routledge, 1980.
6. Bennett, Tony. *Formalism and Marxism*. London and New York: Routledge, 1979.
7. Bertens, Hans. *Literary Theory: the Basics*. London: Routledge, 2001.
8. Culler, Jonathan Barthes. *A Very Short Introduction*. New York: OUP, 2002.
9. Fillingham, Lydia Alix and MousheSusser. *Foucault for Beginners*. India: Orient Longman, 2000.
10. Iyengar, Srinivasa K.R. *The Adventure of Criticism*. New Delhi: Sterling Publishers, 1985.
11. Krishnaswamy N. John Varghese and Sunita Mishra. *Contemporary literary Theory: A Student's Companion*. New Delhi: Macmillan, 2001
12. Kundara, Milan. *The Art of the Novel*. New York: Penguin Books & Faber & Faber, 1986.
13. Lane, J. Richard. *Fifty Key Literary Theorists*. New York and London: Routledge, 2006.
14. Murfin, Ross and Supriya M. Raj. *The Bedford Glossary of Critical Terms*. Boston and New York: Bedford, 1998.
15. Nagarajan M.S. *English Literary Criticism and Theory*. Hyderabad: Orient Longman, 2006.
16. Norris, Christopher. *Deconstruction*. London and New York: Routledge, 1982.
17. Powell, Jim and Van Howell. *Derrida for Beginners*. India: Orient Longman, 2000.
18. Powell, Jim. *Postmodernism*. Chennai: Orient Longman, 1998.
19. Rainbow, Paul. *The Foucault Reader*. New York: Pantheon Books, 1984.
20. Royle, Nicholas. *Jacques Derrida*. London and New York: Routledge, 2003.

**PEENH20 - Elective IVA: HISTORY OF IDEAS**

<b>Year: II SEM : IV</b>	<b>Course Code:</b> PEENH20	<b>Title Of The Course:</b> History of Ideas	<b>Course Type :</b> Theory	<b>Course Category :</b> Elective IV A	<b>H/W</b> 6	<b>CREDITS</b> 4	<b>MARKS</b> 100
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**Course Outcomes (CO)**

On Completion of the Course the Learners will be able to:

1. Identify the evolution of human thought and history of ideology
2. Explain the germ and growth of different schools of philosophy, their episteme and ontological development
3. Interpret social behaviour and cultural practices of human beings according to each train of thought focussed on the course
4. Evaluate the ethical attributes of the schools of philosophy
5. Critique the attributes of other disciplines against the evolutionary changes in human thought

CO/PSO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	M	M	M
CO2	H	H	H	H	M	M
CO3	H	H	H	H	M	M
CO4	H	H	H	H	H	M
CO5	H	H	H	H	H	H

**H - High – (3), M - Moderate (2), L - Low (1)**

CO/PO	PO					
	1	2	3	4	5	6
CO1	H	H	H	M	M	M
CO2	H	H	H	H	M	M
CO3	H	H	H	H	M	M
CO4	H	H	H	H	H	M
CO5	H	H	H	H	H	H





## **Nineteenth Century**

b) Darwin: Natural Selection (Chapter IV)

3. Survival Instinct and Sexual Selection

Marx: The Communist Manifesto:Chapter I

4. Capitalism and Class struggle

:Bourgeois and Proletarians [Pg 246 – 255]

5. History as the story of class struggles

6. Envisioning a classless society

From McLellan, David. *Karl Marx Selected Writings*. New York: Oxford University Press, 2000.

## **Unit IV: Twentieth Century                      K2-K6                      (18 hours)**

a)Sigmund Freud: The Structure of the Unconscious K5

1. Conscious versus unconscious mind

2. Id, ego and superego.

b) Simone de Beauvoir: The Second Sex-Introduction

3. Woman, as the other,object

4.Woman, as individualized self and subject

5. S. Radhakrishnan:Introduction to The Principal *upaniShads*

5.6 The term Upanishads

## **Unit V Contemporary                      K2-K6                      (18 hours)**

Theodore Adorno

Aesthetics

1. Introduction to Aesthetics

2. Defensive Reactions to Modern Art (L 19; Pg. 185-187)

3. A Critique of the theory of Aesthetic experience (L 20; Pg. 203-205)

4. The ambiguity of the work of art (L 20; Pg. 203-205)

5. The Psychology of the Artist (L 21; Pg. 211-213)
6. Subjectivism and Objectivism in Aesthetic (L 17; Pg.166-167)

From Theodore W. Adorno. *Aesthetics* 1958/59. Ed. Eberhard Ortland. Tr. Wieland Hoban. Polity Press. UK. 2018.

### Books for Study and Reference

1. McDermott Robert A. Ed. *The Basic writings of S. Radhakrishnan*.
2. Jaico Publishing House, Mumbai 2004
3. Lear, Jonathan. *Freud*. New York. Routledge, 2005
4. Annas, Julia. *Plato, A Very Short Introduction*. New Delhi: Oxford University Press, 2006.
5. Shields, Christopher. *Aristotle*. Oxon: Routledge, 2007.
6. Lewens, Tim. *Darwin*. New York. Routledge, 2007.
7. Darwin, Charles. *The Origin of Species*. New Delhi: Peacock Books, 2012.
8. Dent, Nicholas. *Rousseau*. Oxon: Routledge, 2005.
9. Stevensen, Leslie & David L. Haberman. *Ten Theories of Human Nature*. Fourth Edition. New Delhi: Oxford University Press, 2006.

### PCENM20 - LITERATURE OF THE MODERN AGE

<b>Year :</b> II <b>SEM</b> :IV	<b>Course Code :</b> PCENM20	<b>Title Of The Course :</b> Literature of the Modern Age	<b>Course Type</b> :Theory	<b>Course Category :</b> Core	<b>H/W</b> <b>6</b>	<b>Credits</b> <b>4</b>	<b>Marks</b> <b>100</b>
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### Course Outcomes (CO)

On Completion of the Course the Learners will be able to:

1. Recognize the broad spectrum of literary and artistic movements of the Twentieth century and thereby develop critical insight to comprehend the plots, characters and techniques in the literary works.
2. Explain the relationship between literature and social structures.

3. Discuss major issues related to the cultural and social context of the 20th century.
4. Appreciate the masterpieces of literature of this literary period and to analyze formal and thematic aspects of modern age in the background of larger cultural and historical movements.
5. Realize the degeneration of morality and human values in the modern age.

CO/PSO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	M	M	M
CO2	H	H	H	H	M	M
CO3	H	H	H	H	M	M
CO4	H	H	H	H	H	M
CO5	H	H	H	H	H	M

**H - High – (3), M - Moderate (2), L - Low (1)**

CO/PO	PO					
	1	2	3	4	5	6
CO1	H	H	H	M	M	M
CO2	H	H	H	H	M	M
CO3	H	H	H	H	M	M
CO4	H	H	H	H	H	M
CO5	H	H	H	H	H	M

**Unit I**

**K1 – K5**

**(18 hours)**



4.1 Fusion of Creative and Critical Faculties, Tradition, Surrealism, Wit and Irony

4.2 Philip Larkin Church Going (Detailed Poetry)

4.3 Wilfred Owen Strange Meeting (ND)

4.4 Bernard Shaw Arms and the Man(detailed Drama)

4.5. John Galsworthy The Silver Box (ND)

4.6 Joseph Conrad

## Unit V

K1 – K5

(18 Hours)

5.1 Stream of Consciousness, Oedipus Complex and Modernism

5.2 Ted Hughes Crow (Detailed Poetry)

5.3 C. P. Snow Two Cultures (Detailed Prose)

5.4 Fragmentation, Iconoclasm, Melancholy and Political Disillusionment

5.5 Graham Greene

5.6 Aldous Huxley

## Reference Books:

1. Harold Bloom Ed, *Samuel Beckett's Waiting for Godot: Viva Modern Critical Interpretations*. New Delhi: First Indian Edition, 2007.
2. Morris Beja, A. E. Dyson Ed. *James Joyce : Dubliners and A portrait of the Artist as a Young man: A selection of critical essays*, 1<sup>st</sup> ed. London: The Macmillan Press Ltd, 1973.
3. Gamini Salgado, A. E. Dyson Ed., *D.H. Lawrence Sons and Lovers: A selection of Critical Essays*. London: The Macmillan Press Ltd, 1973.
4. R.D. Draper, *Sons and Lovers by D.H. Lawrence Macmillan Master Guides*. New York: Palgrave Macmillan, 1986.
5. Harold Bloom ed., *F. Scott Fitzgerald's The Great Gatsby Viva Bloom's Notes*. New Delhi: Viva Books Pvt. Ltd, 2007.
6. Harold Bloom ed., *F. Scott Fitzgerald's The Great Gatsby Viva Bloom's Notes*. New Delhi: Viva Books Pvt. Ltd, 2001.
7. William Stephenson, *Fowler's The Lieutenant's Woman: Reader's Guide* Viva-continuum edition. London: Continuum International Publishing Group first South Asian Edition, 2008.
8. Heiney, Donald and Downs, Lenthel H., *Twentieth Century and Critical Theory*. Essentials of Contemporary Literature of the Western World - Vol.2

9. Hudson, Derek, *English Critical Essays: Twentieth Century (Second Series)*. London: OUP, 1963.
10. James, Pickering H. and Jeffrey D. Hooper, *Concise Companion to Literature*. New York: Macmillan Publishing Co., Inc., 1981.
11. Jones M., Phyllis, *English Critical Essays: Twentieth Century (First Series)*. London: OUP, 1964.
12. Orr, John, *The Making of the Twentieth Century Novel: Lawrence, Joyce, Faulkner and*
13. *Beyond*. Hongkong: Macmillan, 1987.
14. Rama, R.P. ed. *Critical Interactions: Reading Twentieth Century Literary Texts*. Jaipur: Pointer Publishers. 1992.
15. Salgaonkar, V.D. Ed. *The Gates of Wisdom: Selections from Bertrand Russell*. Madras: The Macmillan Co. of India Ltd., 1971.
16. John Wain ed. *Anthology of Modern Poetry*. London: Hutchinson & Co Publishers Ltd.
17. A.J. Wilks, *T.S. Eliot: The Waste Land Macmillan Critical Commentaries*. London: Macmillan Education Ltd, 1971.

## PCENN20 - CONTEMPORARY WRITING

<b>Year : II SEM : IV</b>	<b>Course Code :</b> PCENN20	<b>Title Of The Course :</b> Contemporary Writing	<b>Course Type :</b> Theory	<b>Course Category :</b> Main	<b>H/W</b>  <b>6</b>	<b>Credits</b>  <b>5</b>	<b>Marks</b>  <b>100</b>
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### Course Outcomes (CO)

On Completion of the Course the Learners will be able to:

1. Discuss the significance of Contemporary literary works
2. Appreciate contemporary writing for the form and theme
3. Evaluate Contemporary writers for their contribution to literature and society
4. Evaluate the contemporary literary schools /movements
5. Create critical essays on contemporary writing

CO/ P SO	PSO					
	1	2	3	4	5	6
<b>CO1</b>	H	H	H	H	M	M
<b>CO2</b>	H	H	H	H	H	M
<b>CO3</b>	H	H	H	H	H	M
<b>CO4</b>	H	H	H	H	H	H
<b>CO5</b>	H	H	H	H	H	H

**H - High – (3), M - Moderate (2), L - Low (1)**



CO/PO	PO					
	1	2	3	4	5	6
CO1	H	H	H	H	M	M
CO2	H	H	H	H	H	M
CO3	H	H	H	H	H	M
CO4	H	H	H	H	H	H
CO5	H	H	H	H	H	H

**Unit I: Poetry      K3-K6      (18 hours)**

1.1 World War II and the horrors of the war, genocide and corruption, real-life themes and the beginning of a new period of writing.

1.2 Social and political viewpoints, connections to current events and socioeconomic messages

1.3 Trends that illuminate societal strengths and weaknesses

1.4 Introduction to Contemporary Writing

1.5 Contemporary Style

1.6 Genres in Contemporary literature

**Unit II: Prose      K3-K6      (18 hours)**

2.1 Jo Shapcott      Hairless

2.2 Simon Armitage      Remains

2.3 Bob Dylan      With God on Our Side, The Times They Are A-Changing

2.4 Adrienne Rich      A Mark of Resistance

2.5 Pablo Neruda      Poetry

2.6 John McGrath      -      Behind the Cliches of Contemporary Theatre

From John McGrath. A Goodnight Out; Popular Audience; Class and Form  
A lecture series given at Cambridge University in 1979

**Unit III: Drama & Short Stories**                      **K 3-K6**                      **(26 hours)**

- 3.1 Samuel Beckett                      Waiting for Godot
- 3.2 Harold Pinter                      The Birthday Party
- 3.3 Bertolt Brecht                      Mother Courage and her Children
- 3.4 Borges                      Pierre Menard, Author of the Quixote
- 3.5 Alice Munro                      Face
- 3.6 Vikram Seth                      Beastly Tales from Here and There

**Unit IV: Postmodernism & Posthumanism**                      **K1, K3-K6**                      **(18 hours)**

- 4.1 Terms: Abject; alienation; archetypal criticism; aura; bricoleur; cancelled character; character; closure; erasure; flaneur; frame
- 4.2 Terms: hetero biography; hyperspace; hypertext; ludism; marginality; metafiction; modernism and post-modernism; montage; nomad
- 4.3 Terms: polyphonic; popular; precession; realism; repetition; short-circuit; syntagmatic and paradigmatic; True-Real
- 4.4 Linda Hutcheon -                      Theorizing the Postmodern
- 4.5. Terms: anthropocene, anti-anthropocentrism, anti-humanism, transhuman, alterity, science fiction, technicity
- 4.6 Neil Badmington -                      Post humanism

[From Literature and Science]

**Unit V: Fiction**                      **K4-K6**                      **(10 hours)**

- 5.1 Thomas Pynchon, Orhan Pamuk
- 5.2 Jose Saramago, Isabelle Allende
- 5.3 Kurt Vonnegut Jr, Umberto Eco
- 5.4 Kazuo Ishiguro, Haruki Murakami
- 5.5 Gabriel Garcia Marquez, Ian McEwan

## 5.6 John Updike

### **Books for Reference:**

1. Jennifer Birkett. *Waiting for Godot by Samuel Beckett*. New York: Palgrave Macmillan, 1987.
2. Harold Bloom Ed, *Samuel Beckett's Waiting for Godot: Viva Modern Critical Interpretations*. New Delhi: First Indian Edition, 2007.
3. Rama, R.P. ed. *Critical Interactions: Reading Twentieth Century Literary Texts*. Jaipur: Pointer Publishers. 1992.
4. Heiney, Donald and Downs, Lenthal H., *Twentieth Century and Critical Theory*. Essentials of Contemporary Literature of the Western World - Vol.2
5. Hudson, Derek, *English Critical Essays: Twentieth Century (Second Series)*. London: OUP, 1963.
6. James, Pickering H. and Jeffrey D. Hooper, *Concise Companion to Literature*. New York: Macmillan Publishing Co., Inc., 1981.
7. Jones M., Phyllis, *English Critical Essays: Twentieth Century (First Series)*. London: OUP, 1964.
8. Frankenstein; or, the trials of a posthuman subject An investigation of the Monster in Mary Shelley's "Frankenstein" and his attempt at acquiring human subjectivity in a posthuman state by Isa Ring  
<https://sh.diva-portal.org/smash/get/diva2:1178476/FULLTEXT01.pdf>

**PEENI20 - ELECTIVE IV B: CULTURAL THEORY AND POPULAR CULTURE**

<b>Year: II SEM : IV</b>	<b>Course Code: PEENI20</b>	<b>Title Of The Course: Cultural Theory &amp; Popular Culture</b>	<b>Course Type : Theory</b>	<b>Course Category : Elective IV B</b>	<b>H/W</b>	<b>Credits</b>	<b>Marks 100</b>
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**Course Outcomes (CO)**

On Completion of the Course the Learners will be able to:

1. Recognize the role of Culture in human thought, expression and art
2. Remember the names of the thinkers who initiated the cultural turn in analyzing all the productions of the human mind and both individually and collectively, and their contribution to cultural studies
3. Analyse literary and other related art forms in cultural perspective
4. Apply Cultural Theory as a research methodology
5. Evaluate literary text for their cultural value

CO/PSO	PSO					
	1	2	3	4	5	6
CO1	H	H	M	M	M	M
CO2	H	H	M	M	M	M
CO3	H	H	H	H	M	M
CO4	H	H	H	H	H	M
CO5	H	H	H	H	H	M

**H - High – (3), M - Moderate (2), L - Low (1)**

CO/PO	PSO
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	1	2	3	4	5	6
CO1	H	H	M	M	M	M
CO2	H	H	M	M	M	M
CO3	H	H	H	H	M	M
CO4	H	H	H	H	H	M
CO5	H	H	H	H	H	M

**Unit I**                      **K2 –K6**    **(18Hours)**

- 1.1.Culture
- 1.2. Ideology
- 1.3.Popular Culture
- 1.4.Popular Culture as *other*
- 1.5.Mathew Arnold
- 1.6. Leavisism

**Unit II**                      **K2 –K6**    **(18Hours)**

- 2.1. The culture of other people
- 2.2. Richard Hoggart: *The Uses of Literacy*
- 2.3. Raymond Williams: *'The analysis of culture'*
- 2.4. E.P.Thompson: *The Making of the English Working Class*
- 2.5. Stuart Hall and Paddy Whannel: *The Popular Arts*
- 2.6. The Centre for Contemporary Cultural Studies

**Unit III**                      **K2 – K6**    **(18Hours)**

- 3.1. Classical Marxism
- 3.2. The English Marxism of William Morris
- 3.3. The Frankfurt School
- 3.4. Althusserianism
- 3.5. Hegemony
- 3.6. Post-Marxism and cultural studies

**Unit IV**                      **K2 – K6**    **(18Hours)**

- 4.1. Feminisms

- 4.2. Women at the cinema
- 4.3. Reading women's magazines
- 4.4. Post-feminism
- 4.5. Men's studies and masculinities
- 4.6. Queer theory

## **Unit V**

**K2 – K6**

**(18 Hours)**

- 5.1. 'Race' and racism
- 5.2. The ideology of racism
- 5.3. Orientalism
- 5.4. Whiteness
- 5.5. Anti-racism and cultural studies
- 5.6. The ideology of mass culture

### **Books for Study**

1. Storey, John. *Cultural Theory and Popular Culture*, VI Edition, New Delhi: Pearson, 2014
2. Storey, John. Ed. *What is Cultural Studies? A Reader*. London: HodderHeadline Group, 1997

### **Books for Reference**

1. Stuart Hall. "The Foundation of Cultural Studies". *Cinema on the Brain*. YouTube, 2014
2. Prof. Avishk Parui, Dept. of Humanities and Social Sciences, IIT Madras. "Introduction to Cultural Studies". NPTEL – NOC IITM, YouTube, 2018
3. ---. "British Cultural Studies: Raymond Williams and Culture and Society". University Quick Course, 2018
4. John Hall, F R Leavis and Raymond Williams – "Two Very Different Positions on 'Culture'". BBC., 2017
5. Prof. Anju Narayan, Delhi University. "Culture and Class Struggle in Literature: Antonio Gramsci, Raymond Williams". Vidya-Mitra. YouTube, 2017
6. Prof. Rutger de Graff, University of Amsterdam. "Popular Culture: Reflection or Illusion", *Introduction to Communication Science*. Coursera. YouTube, 2013.



## SEMESTER I

### PCSWB20 - SOCIAL CASE WORK

Year	SEM	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
1	1	PCSWB20	Social Case Work	Theory	Core	5	4	100

#### COURSE OBJECTIVES

- To understand the values and principles of social work and to develop the capacity to practice them.
- To develop in students an understanding of and an ability to adopt a multidimensional approach in assessment and intervention.
- To understand and apply the models of case work practice in different settings.
- Comprehend theory, models and approaches of social case work.

#### COURSE OUTCOME

After completion of the course the students will be able to attain the following outcomes,

**CO1:** Analyze and practice the basic philosophy, principles and values of social work as a method of social work.

**CO2:** Effectively understand the scope of social work

**CO3:** Study and support the application of theories and models in addressing the problems of individuals

**CO4:** Appreciate and practice the basic philosophy, principles and values of social work as a method of social work.

**CO5:** Acquire skills in recording, reflecting and evaluating on the work to grow professionally

CO/PSO	PSO					
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	H	H	H	M	H	H
CO2	H	H	H	H	H	H
CO3	H	M	H	H	H	H
CO4	H	H	H	H	H	H



CO/PO	PO					
	PO1	PO2	PO3	PO4	PO5	PO6
CO1	H	H	H	H	H	M
CO2	H	H	H	M	H	H
CO3	M	H	H	H	H	H
CO4	H	H	H	H	H	M
CO5	H	M	M	H	M	H

(Low - L, Medium – M, High - H)

### Unit I: Historical Development

(15 hours)

- 1.1 Historical development of social casework as a method of social work practice (K2,K1)
- 1.2 Scope and limitations (K2,K1)
- 1.3 Objectives of working with individuals (K3,K2)
- 1.4 Values Worth and dignity of clients, uniqueness and individuality, problem solving capacity and self-determination, confidentiality and mobilizing resources (K4,K3)
- 1.5 Principles of acceptance, individualization, client participation, controlled emotional involvement. (K5,K3)

### Unit II: Different Process of Case Work

(15 hours)

- 2.1 Components: Person and family, problem, agency resources and process (K5,K3)
- 2.2 Phase 1 – Exploration of person in environment, multi-dimensional assessment and planning.
- 2.3 Multidimensional intervention (K6,K5,K3)
- 2.4 Phase II – Implementing and goal attainment. (K6,K5,K3)
- 2.5 Phase III – termination and evaluation, follow up. (K6,K4)

### Unit III: Tools and Techniques of Case Work

(15 hours)

- 3.1 Techniques in Case work (K5,K3)
- 3.2 Supportive Techniques: acceptance, assurance, ventilation, emotional support, action oriented support and advocacy (K5,K3)

3.3 Enhancing resources techniques, procuring material help, environment modification and enhancing information (K6,K4,K2)

3.4 Counseling techniques- Reflective discussion, advice, motivation, clarification, modeling, role-playing, reality orientation, partialisation, confrontation and reaching out (K5,K4,K2)

#### **Unit IV: Supporting Tools**

**(15 hours)**

4.1 Casework tools: Verbal and non-verbal communication, listing, observation, questioning, giving feedback (K6,K3)

4.2 Interviewing process, home and collateral contacts. (K4,K2,K1)

4.3 Recording: Meaning, uses (K2,K1)

4.4 Principles and types of recording (K3,K4)

4.5 Narrative, process and summary – (K3,K1)

4.6 Use of Genogram and Eco map in records. (K4,K3,K2)

#### **Unit V: Rapport building Process**

**(15 hours)**

5.1 Use of relationship in the helping process (K4,K3,K2)

5.2 Empathy, nurturing (K3,K2)

5.3 Authority, professional (K3,K2)

5.4 Fostering clients growth (K3,K2)

5.5 Problems in helping relationship, resistance, (K5,K3,K2)

5.6 Transference and counter transference. (K5,K3,K2)

#### **Books for Study and Reference:**

1. P.K.Upadhyey – Social Case Work – Rewat Publications, Jaipur, 2003.
2. Prakash M. Katare – Social Work and Rural Development – Arise Publishers & Distributors, New Delhi, 2006.
3. Sanjay Bhattacharya – Social Work: An Integrated Approach – Deep and Deep Publications, New Delhi, 2005.
4. V.Ramamurthy – Guidance and Counselling of HIV/AIDS – Tarum Offset, New Delhi, 2004.
5. S. Narayanan Rao – Counselling and Guidance, 2<sup>nd</sup> Edition – Tata McGraw Hill Publishing, New Delhi, 2006.
6. Helen Harris Pearlman – Social case work-A problem solving process – university of California press - 2002
7. Grace Mathew – An introduction to Social case work – Tata Institute of social sciences – 1992 -Mumbai

**SEMESTER I**  
**PCSWC20 – SOCIAL GROUP WORK**

Year	SEM	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
I	I	PCSWC20	Social Group Work	Theory	Core	5	4	100

**COURSE OBJECTIVES**

- To understand the significance of the group in the society.
- To acquire knowledge on Group dynamics.
- To understand values and principles of group work.
- To develop skills to apply group method for developmental and therapeutic work.
- To understand social group work as a method of social work

**COURSE OUTCOMES**

After completion of the course the students will be able to attain the following outcomes

**CO1:** Develop the students on the activities of group work process, types of group, characteristics of group, group dynamics and plan interventions based on appropriate Group Work models

**CO2:** Understand the significance of Social Group Work

**CO3:** Acquire knowledge, skills and values in practicing Social Work with Groups through Programme Planning

**CO4:** Examine the role of group worker in different settings

**CO5:** Acquire skills in recording and evaluation

CO/PSO	PSO					
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
<b>CO1</b>	H	H	M	H	H	M
<b>CO2</b>	H	M	H	H	M	H
<b>CO3</b>	M	H	H	M	H	H

<b>CO4</b>	H	H	M	H	H	M
<b>CO5</b>	H	M	H	H	H	M

<b>CO/PO</b>	<b>PO</b>					
	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>
<b>CO1</b>	M	H	H	H	H	M
<b>CO2</b>	M	H	H	H	H	H
<b>CO3</b>	M	H	H	H	H	H
<b>CO4</b>	H	H	H	M	H	H
<b>CO5</b>	M	H	H	H	H	H

(Low - L, Medium – M, High - H)

**Unit I: Social Group** (15 hours)

- 1.1 Meaning, Definition, Characteristics, (K3,K1)
- 1.2 Reasons for group formation, (K3,K2)
- 1.3 Types of groups, (K3)
- 1.4 Stages of group development, (K4,K3,K2)
- 1.5 Models of group work, Group dynamics (K4,K3,K2)
- 1.6 Membership, Cohesiveness, Group norm, Bond, Attraction, Communication and Interaction pattern, Problem solving, Goal setting, Mutual aid. (K5 K3,K2)

**Unit II: Social Group Work** (15 hours)

- 2.1 Definition, Objectives (K3,K1)
- 2.2 Principles of Group work , Historical development of group work in India (K3,K2)
- 2.3 Values and Characteristics of group work(K6,K3,K2)
- 2.4 Goals and Functions of group work (K5,K3)
- 2.5 Relationship between Casework and Group work (K4,K3,K2)
- 2.6 Group work process - Intake, Study, Diagnosis, Treatment, Evaluation, Termination and Follow-up. (K6,K4,K3,K2)

**Unit III: Programme Planning** (15 hours)

- 3.1 Meaning of Programme Planning (K2,K1)
- 3.2 Purpose of Programme Plannning (K3,K2)

- 3.3 Principles of program planning (K4,K3,K2)
- 3.4 Importance of programme in group work, (K5,K2)
- 3.5 Role of group worker in programme planning (K4,K2)
- 3.6 Programme laboratory values, tools and techniques - Games, Singing, Dancing, Dramatics, Street play, Puppetry, Role play, Group discussions, Social drama, Brain storming, Camping - Sociometry and Sociogram. (K6,K5,K2)

**Unit IV: Application of Group Work and Role of Group Worker (15 hours)**

- 4.1 Group work in family service agencies, Hospitals, Correctional agencies, Schools, Urban and Rural Community development settings (K6,K4)
- 4.2 Limitation of group work practice (K3,K2)
- 4.3 Qualities of group worker (K4,K3)
- 4.4 Leadership, Supervision -Meaning and definition(K2,K1)
- 4.5 Theories and qualities of a leader (K5,K3)
- 4.6 Role of group worker. (K6,K2,K1)

**Unit V: Group Work Recording and Evaluation (15 hours)**

- 5.1 Recording in group work, Meaning, (K2,K1)
- 5.2 Purpose, Principles of recording (K5,K4,K2)
- 5.3 Contents of group work records (K3,K2)
- 5.4 Types of records (K2)
- 5.5 Evaluation - purpose, Content of Evaluation, Evaluation of Group, (K4,K3)
- 5.6 Evaluation of Member's contribution to group.( K3,K2,K1)

**Books for Study and Reference:**

1. David W.Johnson, Frank P Johnson – Joining Together Group Therapy and Group Skills – 6<sup>th</sup> edition, Allyn and Bacon Publications, U.S.A., 1997.
2. Sanjay Bhattacharya – Social Work: An Integrated Approach – Deep and Deep Publications, New Delhi, 2005.
3. Mark Doel and Catherine Sawdon – The Essential Group Worker – Teaching and Learning Creative Group Work - Jessica Kinsley Publishers, London, 1999.
4. M.R.Kamble – Social Work with Children – Sheetal Printers, Jaipur, 2007.
5. Gisela Konopka – Social group work – A helping process – prentice hall college div – 1983.
6. Tom Douglas – Basic Group work – Routledge, 2000.
7. S.Rengasamy – Student's Guide to Social Group Work - Second Draft, Tamilnadu, 2010.

SEMESTER II

**PCSWE20 - HUMAN GROWTH AND PERSONALITY DEVELOPMENT**

Year	SEM	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
I	II	PCSWE20	Human Growth and Personality Development	Theory	Core	5	4	100

**COURSE OBJECTIVES:**

- To obtain an understanding of human behaviour in relation to the society.
- To equip the students of social work with understanding of human behaviour and personality development models.
- To introduce the students to the various fields of Psychology.

**COURSE OUTCOME**

After completion of the course the students will be able to attain the following outcomes.

**CO1:** Summarize the relevance of psychology for social work practice

**CO2:** Understand the psychological bases and processes involved with cognition, learning, behavior and personality development

**CO3:** Obtain an insight to factors contributing to development of personality

**CO4:** Explore the concept of social psychology and application of psychological tests.

**CO5:** Explore the developmental stages of life from a psychological perspective.

CO/PSO	PSO					
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
<b>CO1</b>	H	H	M	H	H	M
<b>CO2</b>	H	M	H	H	M	H
<b>CO3</b>	M	H	H	M	H	H
<b>CO4</b>	H	H	M	H	H	M

<b>CO5</b>	H	M	H	H	H	M
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<b>CO/PO</b>	<b>PO</b>					
	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>
<b>CO1</b>	H	M	M	H	H	H
<b>CO2</b>	H	H	H	H	M	H
<b>CO3</b>	H	H	H	H	M	H
<b>CO4</b>	H	M	M	H	H	H
<b>CO5</b>	H	H	H	H	M	H

(Low - L, Medium – M, High - H)

### Unit I: Psychology

(15 hours)

- 1.1 History of Psychology---(K2,K1,K3)
- 1.2 Definition of psychology—(K1,K2)
- 1.3 Meaning of Psychology—(K2,K1)
- 1.4 Methods of psychology-(K4,K3,K2)
- 1.5 Scope of psychology---(K6,K4,K3)
- 1.6 Relevance of psychology in social work profession---(K6,K5,K4)

### Unit II: Psychological functions

(15 hours)

- 2.1 Psychological functions (K6,K5,K4)
- 2.2 Memory process—registration, retention and recall---(K6,K4,K3)
- 2.3 Intelligence- concept, levels and influence of hereditary and environment—(K5,K6,K4,K3)
- 2.4 Motivation—concepts types and influence on human behavior—(K4,K2,K3)
- 2.5 Emotions nature and characteristics--- (K4,K3,K2)
- 2.6 Emotional expressions—(K5,K4,K3,K2)

### Unit III: Personality

(15 hours)

- 3.1 Personality definition, concept, structure---(K3,K2,K1)
- 3.2 Psychoanalytic approach---(K6,K5,K4,K3)
- 3.3 Behavioural approach--- (K6,K5,K4)
- 3.4 Humanistic approach----(K6,K5,K4)
- 3.5 Attitude and Prejudice definition , formation and maintenance—(K4,K5,K2,K1)
- 3.6 Influence of attitude on behavior and factors influencing attitude change (K6,K5,K4)

**Unit IV: Psychological Tests****(15 hours)**

- 4.1 Psychological tests and Aptitude ---(**K6,K5,K4**)
- 4.2 Psychopathology---(**K4,K5**)
- 4.3 Scales developed to study human behavior---(**K6,K5,K4**)
- 4.4 Adjustment and maladjustment—(**K5,K4**)
- 4.5 Stress, Frustrations, Conflicts---(**K5,K4,K3**)
- 4.5 Defense Mechanisms—(**K5,K4,K2**)

**Unit V: Development Psychology****(15 hours)**

- 5.1 Developmental psychology meaning, definitions principles---(**K2,K1**)
- 5.2 Stages of development conception, prenatal—(**K4,K2,K3**)
- 5.3 Infancy, Babyhood, childhood---(**K4,K3,K2**)
- 5.4 Puberty and adolescence---(**K5,K4,K3**)
- 5.5 Adulthood, meddlege and old age—(**K5,K4**)
- 5.6 Sociol factors influencing development—(**K6,K5,K4**)

**Books for Study and Reference:**

1. Morgan, Clifford .T, King A. Richard Weisz, John.,R. Schopler John - Introduction to Psychology - Ronald Press, New York, 1977.
2. Munn L.Norman, Fernald Dodge C.Fernald Peter S., Leonard Carmicheal - Introduction to Psychology - A.I.T.B.S Publishers, New Delhi, 2007
3. Hurlock Elizabeth B. – Personality Development - Tata, McGraw, Hill Publishing Company, New Delhi, 2005.
4. Park & Park - Textbook of Preventive and Social Medicine - M/S. Banarsidas Bhanot Jabalpur, 2005
5. Shakuntala Devi - Principles of Social Psychology - Raj Publishing house, Jaipur, 2004
6. S. Kumar - Principles of Developmental Psychology - Anmol Publications, New Delhi, 2002.
7. A.R. Rathur - Psychology of Learning and Development - Discovery Publishing house, New Delhi, 2004.
8. N.M. Tiwari - Child Psychology - Saurahb Publishing house, New Delhi.
9. Papalia, Olds Feldman - Human Development, 9<sup>th</sup> Edition - Tata McGraw Hill Publishing Company, New Delhi, 2004.
10. Duane P. Schultz - Theories of Personality, 8<sup>th</sup> Edition - Thomson, Wordsworth India, UK, US, Singapore, 2005.
11. K.c. Shukla, Tarachand - General Psychology - Commonwealth Publishers, New Delhi, 2007
12. Cooper, Mcgaugh - Integrating Principles of Social Psychology - Eurasia Publishing House, New Delhi.



13. Rajiv K. Mishra - Personality Development - Rapa & Co. New Delhi.

**SEMESTER II**  
(M.A./M.Sc/M.Com/M.B.A/M.S.W)  
**PNHRA22 – HUMAN RIGHTS**

Year	SEM	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
I	II	PNHRA22	Human Rights	Theory	Core	2	2	100

**COURSE OBJECTIVES :**

- To develop respect for Human Rights and encourage students to stand for Social Justice
- To create awareness on the Indian legal system, rule of law and human rights perspective in India.
- To make students to understand the goals of Human Rights Education
- To sensitize students for the application of human rights to the various practice domains of the different profession
- To understand the functioning of Union, State and Local Governments in Indian federal system

**COURSE OUTCOMES :**

After completion of the course the students will be able to attain the following outcomes,

**CO1 :** Obtain knowledge and understand about fundamental Human Rights

**CO2 :** Understanding of the concepts of Indian constitution and to emphasize its importance

**CO3 :** Promote knowledge in understanding the concept of Universal Declaration and International Covenants on Human Rights.

**CO4 :** To strengthen the promotion and protection of human rights around the globe

**CO5 :** Promote awareness on the Indian legal system, rule of law, human rights related policies, Acts and movements

CO/PSO	PSO					
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	M	M	H	H	H	H
CO2	H	M	H	H	H	H
CO3	H	M	H	H	H	H
CO4	H	H	H	M	H	H
CO5	H	H	H	H	H	H

CO/PO	PO					
	PO1	PO2	PO3	PO4	PO5	PO6
CO1	H	M	H	M	H	H
CO2	M	M	H	H	H	H
CO3	M	M	H	H	H	H
CO4	M	H	H	H	H	H
CO5	M	H	H	H	H	H

### UNIT I : INTRODUCTION TO HUMAN RIGHTS

1. Human Rights – Introduction
2. Meaning and definition
3. Origin and Development
4. Elements of Human Rights
5. Kinds of Human Rights -Civil and Political rights
6. Social ,Economic & Cultural rights

### UNIT II : INDIAN CONSTITUTION AND HUMAN RIGHTS

1. Indian Constitution -Meaning- Definition, Classification
2. Features of India Constitution, Federalism
3. Preamble, Fundamental Rights
4. Directive Principles of State policy
5. Right to constitutional Remedies, PIL, Different Courts
6. Constitution of Human Rights Court, Right to Information Act, 2005(RTI)

### UNIT III : UNIVERSAL DECLARATION AND INTERNATIONAL COVENANTS ON HUMAN RIGHTS

1. Universal declaration – Meaning & concepts
2. Provisions of universal declaration of Human Rights
3. Effects and influence of Universal Declaration
4. Distinction between the Indian constitution and Universal Declaration
5. International covenants on civil & Political Rights ,1966 (ICCPR)
6. International covenants on Economic, social and cultural rights, 1966 (ICESCR)

#### **UNIT IV : UNITED NATIONS AND HUMAN RIGHTS**

1. Provisions relating to human rights under UN charter
2. Through principal organs, UN Commission on Human Rights
3. UN charter based institutions, UN specialized Agencies
4. Human Rights and Domestic Jurisdiction
5. United Nation Convention against Torture (UNCAT)
6. Convention on the Protection of the Migrant Workers

#### **UNIT V : HUMAN RIGHTS AND DIFFERENT POLICIES**

1. Anti Human Trafficking and Protection of Human Rights Act,1993
2. Policies and Acts, National Policy for Children 2013, Juvenile Justice Act 2000,
3. POCSO Act 2012
4. National Policy for Empowerment of women 2001, The Sexual Harassment of Women at Workplace Act 2013,
5. National Human Rights commission, State Human Rights Commission
6. Farm Bill 2020, CAA,NRC,NPR, New Educational Policy 2020.

#### **REFERENCE ITEMS: BOOKS, JOURNAL**

1. Protection Of Human Rights Act, 1993.
2. Constitutional Law of India (3 Volumes) by Seervai H.M 2015
3. The Human Rights Watch Global Report On Women's Human Rights 2000 Oxford Publication
4. RS Sharma Perspectives In Human Rights Development
5. Julies Stone Human Law And Human Justice 2000 Universal Publication
6. Research Handbook On International Human Rights Law, Edited By Sarah Joseph &
7. Edited By Sarah Joseph, Edward Elgar Publishing Limited USA

#### **SEMESTER III – SPECIALIZATION – II B PSHRB20 – HUMAN RESOURCES MANAGEMENT**

Year	SEM	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
II	III	PSHRB20	Human Resources Management	Theory	Core	5	4	100

#### **COURSE OBJECTIVES**

- To help students acquire knowledge in Human Resources Management.
- To understand the various functions of Human Resources Management.
- To develop the skills and attitudes required of a successful HR professional.

### **COURSE OUTCOME**

After completion of the course the students will be able to attain the following outcomes,

**CO1 :** Acquire and build the appropriate knowledge base to Human resource management.

**CO2 :** Contribute to the development, implementation and evaluation of employee recruitment, selection and retention plans and processes.

**CO3 :** Gain knowledge on corporate culture related to social issues in the work place.

**CO4 :** Acquire the skills of comprehending a multi-stakeholder perspective in viewing workplace issues

**CO5 :** Develop implement and evaluate organizational development strategies aimed at promoting organizational effectiveness.

CO/PSO	PSO					
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
<b>CO1</b>	H	H	M	H	H	M
<b>CO2</b>	H	M	H	H	M	H
<b>CO3</b>	M	H	H	M	H	H
<b>CO4</b>	H	H	M	H	H	M
<b>CO5</b>	H	M	H	H	H	M

CO/PO	PO					
	PO1	PO2	PO3	PO4	PO5	PO6
<b>CO1</b>	H	H	M	H	H	M
<b>CO2</b>	M	H	M	H	H	H
<b>CO3</b>	H	M	H	M	H	H
<b>CO4</b>	H	H	M	H	M	H
<b>CO5</b>	H	M	M	H	H	H

**(Low - L, Medium – M, High - H)**

### **UNIT-I - Introduction To Management Definition (15 hours)**

**1.1 Definition, Functions and Principles of management----(K4,K2,K1)**

**1.2 Role and types of managers and managerial skills and roles----(K5,K4,K3)**

1.3 Evolution of Management,Scientific, human relations, system and contingency approaches—(-K6,K4,K3)

1.4 Types of business organization,Sole proprietorship,partnership and public and private sector enterprises—(-K5,K4,K3)

1.5 Organisational culture and environment---(K6,K5,K4)

1.6 Current trends and issues in management—(K6,K5,K4,K3)

**UNIT-II - Perceptive In Human Resource Management (15 hours)**

2.1 Evolution of human resource management---(K6,K5,K3)

2.2 Importance of the human factor and objectives of human resource management---(K5,K4,K2 )

2.3 Inclusive growth and affirmative action---(K6,K4,K3)

2.4 Role of human resource managers---(K6,K4,K3,K2)

2.5 Human resource policy—(K6,K5,K4,K2)

2.6 Human Resource Indormative System, Human resource accounting and audit---(K6,K5,K4,K3)

**UNIT-III - The Concept Of Best Fit Employee (15 hours)**

3.1 Importance of human resource planning (K4,K5,K3)

3.2 Forecasting human resource requirement, Internal and external sources---(K4, K5,K3,K2)

3.3 Selection process screening, tests, validation,interview ( K6,K5,K4)

3.4 Recruitment Introduction and importance----(K6,K5,K4)

3.5 Medical examination---(K5 K4)

3.6 Socialization benefits---(K6,K5 K4)

**UNIT-IV - Training And Development (15 hours)**

4.1 Types of training methods,training needs and importance- (K6,K4 K2)

4.2 Common practices,bench marking, competency, mapping and industry practices---(K5,K4)

4.3 Benefits, self development, knowledge management---(K5,K4,K3)

4.4 Compensation plan, recognition,reward---(K5,K4,K6)

4.5 Motivation, theories of motivation---(K4,K3,K2)

4.6 Career management,Development of mentor,Protégé relationship- (K6,K5)

**UNIT-V - Performance Evaluation And Control Process (15 hours)**

- 5.1 Methods of performance evaluation, feedback- (K6,K4,K3)
- 5.2 Industry practices, Promotion, Demotion, Transfer and Separation- (K5,K4,K3)
- 5.3 Implication of Job change, control process, importance and method -(K6,K5,K3)
- 5.4 Requirement of effective control systems grievances and causes---(K5,K4)
- 5.5 Redressal methods- (K6,K5,K4)
- 5.6 HR- ethics—(K6,K5,K3)

**Books for Study and Reference:**

1. SS.Khanka – Human Resource Management – S.Chand & Company Ltd., New Delhi, 2003, First Edition.
2. P.C.Tripathi – Personnel Management and Industrial Relations – Sultan Chand & Sons, New Delhi, 2005.
3. Flippo Edwin – Personnel Management – Tata McGraw Hill Book Company.
4. K.Aswhappa - Human Resource Management - Tata McGraw Hill Publishing Company Ltd., New Delhi, 2008.
5. R.N.Gupta – Principles of Management – S.Chand & Company Ltd., New Delhi, 2005.
6. S.Yuvaraj – Human Resource Development – Vrinda Publications (P) Ltd., New Delhi, 2003.
7. P.Parthasarathy – Principles of Management – 2<sup>nd</sup> Edition, Vrinda Publications (P) Ltd.

**SEMESTER III - SPECIALIZATION - III B**

**PSMSB20 - INTRODUCTION TO PSYCHIATRY AND MENTAL HEALTH**

Year	SEM	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
II	III	PSMSB20	Introduction to Psychiatry and Mental Health	Theory	Core	5	4	100

**COURSE OBJECTIVES**

- To understand the concept of Mental Health, and acquire knowledge in mental disorders, stress and coping in the context of holistic health.
- To develop skills in identifying mental disorders in health settings and community
- To understand the characteristics of positive mental health.

**COURSE OUTCOME**

After completion of the course the students will be able to attain the following outcomes,

**CO1:** Understand the context of practice of Psychiatric Social Work

**CO2:** Learn and understand the concept of mental disorders and their management

**CO3:** Acquire skills to identify, understand and assess mental disorders

**CO4:** Gain competencies in knowledge, skills and attitude in managing mental disorders through understanding and practice of Psychiatric Social Work approaches

**CO5:** Appreciate the importance and role of psychiatry social worker in development

CO/PSO	PSO					
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	H	M	H	H	H	H
CO2	H	H	M	H	H	H
CO3	H	H	H	H	H	H
CO4	H	H	H	H	H	M
CO5	H	M	H	H	H	H

CO/PO	PO					
	PO1	PO2	PO3	PO4	PO5	PO6
CO1	H	M	M	M	H	H
CO2	H	H	H	M	M	H
CO3	H	H	H	H	M	H
CO4	H	H	H	H	H	H
CO5	H	M	M	M	M	H

(Low - L, Medium – M, High - H)

**Unit I:**

**(15 hours)**

- 1.1 Definition of Psychiatry, Psychopathology, Psychiatric social work (K1,K2)
- 1.2 History and Scope of Psychiatric Social Work, changing perspective of psychiatric social work (K2,K3,K4)
- 1.3 Mental Health:- Definitions, meaning, Concept, Principles( K2,K3,K4)
- 1.4 Factors necessary for promotion of Mental Health, (K3,K4,K5)

- 1.5 Characteristic of Mentally Healthy Individual. Misconceptions towards mentally ill - Problems faced by mental ill people (K4,K5,K6)
- 1.6 Introduction ICD and DSM., (K1,K2,K3)

**Unit II: (15 hours)**

- 2.1 Definition of a psychiatric disorder, Features of disturbances in bodily functions (K1,K2)
- 2.2 Signs and symptoms of common mental illness, Causes of mental illness –(K2,K3)
- 2.3 Psychiatric Assessment - History taking and mental status examination - multi dimensional assessment of mental disorder in psychiatric social work. (K3)
- 2.4 Classification of mental disorders:-symptoms, causes and treatment of, (K3,K4)
- 2.5 Psychosis: *Functional* - schizophrenia, *Affective* - Mania, Depression, Unipolar, Bipolar, Cyclic, *Organic* - acute and chronic. Neurosis: - Anxiety neurosis, Depressive neurosis, Hysterical neurosis, OCD, Phobic neurosis.(K1,K2)

**Unit III: (15 hours)**

**Special disorders:-**

- 3.1 Causes of psychiatric disturbance in childhood, definition of disturbance( K1,K2)
- 3.2 Childhood disorders:- Autism, Childhood schizophrenia, Attention deficit and hyper activity disorder (K2,K3,K4)
- 3.3 Behavior problems in children:
1. Problems Antisocial in Nature
  2. Habit disorders
  3. Personality disorders
  4. Psychosomatic complaints
  5. Educational difficulties - Disorders associated with eating, speech, and sleep, scholastic backwardness, identify crisis. (K2,K4,K5,K6)

**Unit IV: (15 hours)**

- 4.1 Personality disorders, psycho-physiological Disorders, alcoholism, Drug abuse, and suicide (K1,K2)
- 4.2 Mental retardation, Alzheimer's Disease, Sexual Deviation, Epilepsy, Culture Bound Syndrome (K2,K3)
- 4.3 Different Mental Health Act 2017. (K2, K4)



**Unit V:****(15 hours)**

- 5.1** Stress and coping mechanism, Emergencies in psychiatry **(K2,K3)**
- 5.2** Different kinds of Therapies/ Clinical Social Work **(K2,K3)**
- 5.3** Role and functions of psychiatric social work and the qualities of psychiatric social worker, Act on disaster management and pandemic related act in Medical Social Work. **(K3,K5)**

**Books for Study and Reference:**

1. Abelin T. Brzenski and V.D. Carstaris - Measurements in Health Promotion and Protection - Copenhagen, WHO.
2. Alderson M - An Introduction to Epidemiology - London: Macmillan, 2<sup>nd</sup> Ed. 1983.
3. Francis C.M. - Promotion of Mental Health with Community Participation - Kerela: The Center for Health Care Research and Education, 1997.
4. Jay, Pee - Diagnostic and Statistical Manual of Mental Disorders (DSM IV) - New Delhi: Oxford Press, 1994.
5. Kaplan, Saddock - Synopsis of Psychiatry 7<sup>th</sup> Ed. New Delhi: BI Waverly Pvt. Ltd.,
6. Kappur M. Sheppard Child Mental Health - Proceedings of the Indo - Us symposium.
7. Mane P. & Gandevia K. - Mental Health in India Issues and Concerns - Tata Institute of social sciences, Mumbai, 1994.
8. Shepard, Micheal et al - Childhood Behavior and Mental Health - London: University Press, 1971.
9. World Health Organization. Geneva - The ICD 10 Classification of Mental and Behavioral Disorders, Clinical Description and Diagnostic Guidelines - Oxford University Press, 1992.
10. James Morrison - DSM - IV Made Easy - The Guidford Press, New York / London
11. Dr. S. Radhakrishnan - Encyclopedia of Social Work in India, Vo. I, II & III. - The Planning Commission, Govt, of India, 1968.
12. S.K. Mangal - Abnormal Psychology - Sterling Publisher & Private Limited, 1987.
13. C.P. Yadav - Encyclopedia of Social Work and Community Organization, Vol. II - Anmol Publications (P) Ltd., New Delhi, 2007.

**SEMESTER III****PISWC20- IEC- COUNSELLING**

Year	SEM	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
II	III	PISWC20	IEC- Counselling	Theory	Core			100

**COURSE OBJECTIVES**

- To develop a basic understanding of theory and skills in counseling.

- To learn the different approaches and to develop an eclectic approach to counseling.
- To integrate counseling skills in social work practice.

### **COURSE OUTCOME**

After completion of the course the students will be able to attain the following outcomes,

**CO1:** Understand the basics of counseling and Guidance

**CO2:** Obtain knowledge on theories of Counseling.

**CO3:** Able to develop application of various counseling techniques with special groups

**CO4:** Understand linkages of Counseling and Guidance in Social Work

**CO5:** Demonstrate knowledge and skills related to building, maintaining, and utilizing counseling relationship to address mental health issues and meet client goals.

CO/PSO	PSO					
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
<b>CO1</b>	H	H	H	H	M	H
<b>CO2</b>	H	M	H	H	H	H
<b>CO3</b>	H	H	M	H	H	M
<b>CO4</b>	H	H	H	M	H	H
<b>CO5</b>	H	H	H	H	M	H

CO/PO	PO					
	PO1	PO2	PO3	PO4	PO5	PO6
<b>CO1</b>	M	H	H	M	H	H
<b>CO2</b>	M	H	H	M	H	H
<b>CO3</b>	M	H	H	H	H	H
<b>CO4</b>	M	H	H	M	H	H
<b>CO5</b>	H	H	H	H	H	H

**(Low - L, Medium – M, High - H)**

### **Unit I : Introduction**

1.1 Counseling: Concept ,Definition (**K1, K2**)

1.2 Principles and goals ( **K2,K3**)

1.3 Factors influencing counseling process (**,K2,K3,K4,K5,**)

1.4 Counselor as a professional; attitudes., values, beliefs, relationship, burn-out stress management, self-renewal. (K1,K2, K3)

1.5 Client as a person: Voluntary and non-voluntary client, (K2, K3,K5)

1.6 ,Expectations and client's behavior.(K2, K4,K5)

## **Unit II: Different Approaches of Counseling**

2.1 : Approaches (K2,K3,K4,K5)

2.2, Over view of alternate approaches: yoga, meditation, storytelling,, psychodrama, medical clowning (K2,K3,K4,K5,K6)

2.3 Art therapy (K2,K3,K4)

2.4 Laughter therapy (K2,K3,K4)

2.5 Movement therapy. (K2,K3,K4)

2.6 .Need for eclectic approach to Counseling (K2,K3)

## **Unit III: Types and Techniques of Counseling**

3.1 Types (K1, K2,K3)

3.2 Directive counseling, non-directive counseling ( K2,,K4,K5)

3.3 Individual counseling, , ( K2, K3,K4,K5)

3.4 Group counseling, community counseling (K2, K3,K4,K5)

3.5 Peer counseling (K2, K3,K4,K5)

3.6. Counseling Techniques: Initiating contact, intake, rapport building, establishing structure, interaction, attending behaviour, observation and responding, SOLER .

(K2,,K3,K4,K5,K6)

## **Unit IV: The Eagan Model of Counseling:**

4.1 Stage-I Problem exploration and clarification. ( K2,K4,K5)

4.2 Part I – Attending and listening, orienting oneself to the present, Micro skills- active listening- verbal and non- verbal messages and behaviour (K2,K4)

4.3 Part II – Helper's response and clients self -exploration, Helper's skills – accurate empathy (primary level), respect, genuineness, concreteness, client's skills- self exploration.

S (K2,K4,)

4.4 Stage -2: Integrative understanding/ dynamic self-understanding, Part-I focusing, summarizing, probing for missing experiences, behaviour feelings. (K2, K4,K5)

4.5, Part II- Helper's skills- Skills of stage- 1 self- disclosure, immediacy, confrontation, Client's skill – non- defensive listening, dynamic self – understanding. (K2 K3,K4,K5)

4.6 Stage -3: Facilitating action; developing new perspectives; preferred scenario, Part 1- helping clients see alternatives; choose and formulate action plan, implement evaluate. (K2,K3,K4,K5,K6)

### **Unit V: Counselling in Different Settings**

5.1, Marital, family, HIV/AIDS, Pastoral Counseling (K2, K3,K4,K5)

5.2 Student Guidance and Counseling, career guidance and grief counseling, (K2, K3,K4,K5,K6)

5.3 Counseling suicidal clients, gerontological counseling ( K2,K3,K4,K5)

5.4 Adolescent counseling (K2,,K3,K4,K5,K6)

5.5 De-addiction counseling and disaster counseling (K2, K3,K4,K5)

5.6 Correctional Counselling (K2, ,K4,K5)

### **Books for Reference:**

1. Association of Psychological and educational counsellor of Asia (APECA, 198 )  
Counseling in Asia, Perspectives and practices.
2. Bianca cody Murphy, Carolyn Dillion(2003): interviewing in Action Relationship,Process and Change. 2<sup>nd</sup> Ed, USA: Thompson Brooks/ cole.
3. Colin feltham (2010): Brief Counselling, New Delhi: Tata McGraw Hill.
4. David R. Evans, Margret T. Hearn, Max R. Ullamann& Allen E. Ivey (2008).  
Essential interviewing: A Programmed Approach to Effective Communication, USA:  
Thompson Brooks/Cole.
5. Dalaganjan Naik,(2004): Fundamentals of Guidance and Counseling.  
Delhi:Adhyayam.
6. Gibson L.Robert & Mitchell, (2008): Introduction to Counseling and Guidance.Prentice  
Hall of India.
7. Jacobs E, Masson L, Harvill L.(1998): Group Counseling Strategies and Skills. USA:  
Brooks/ Cole Publishing Company

**SEMESTER I**  
**PCBAB20 ORGANIZATIONAL BEHAVIOR**

Year/Sem	Course Code	Title of the Course	Course type	Course Category	H/W	Credits	Marks
I / I	PCBAB20	Organizational Behavior	Theory	Core	6	3	100

**OBJECTIVES**

1. To give a comprehensive view on the behavior of individuals and groups within diverse organizations and on organizational structure and processes.
2. To introduce students to theories and concepts of organizational behavior, increase knowledge and understanding of organizational behavior terminology and main concepts.
3. To develop students' skills in organizational behavior analysis, by providing practice in assessing organizational behavior problems.
4. To acquaint the students with the determinants of intra -individual, inter-personnel and inter group behaviour in organisational setting and to equip them with behavioural skills in managing people at work.

**COURSE OUTCOMES**

The learners will be able to

**CO1:** Asses an organization and classify the contributing disciplines, approaches to OB

**CO2:** Acquire knowledge in applying personality traits and motivational theories.

**CO3:** Analyze the behavior of individuals and groups in organizations in terms of key factors.

**CO4:** Ability to comprehend the leadership skills and effective communication systems.

**CO5:** Assess the potential effects of organizational factors develop skills in handling stress and manage Quality of work life.

CO	PO					
	1	2	3	4	5	6
CO1	H	L	H	H	H	L
CO2	M	M	M	M	L	H
CO3	H	M	M	M	H	H
CO4	H	H	M	M	H	H
CO5	M	H	H	M	H	M

CO	PSO					
	1	2	3	4	5	6
CO1	H	M	M	L	M	L
CO2	M	M	H	L	M	L
CO3	H	L	M	L	H	M
CO4	H	M	M	M	M	L
CO5	H	L	L	L	L	H

**H-HIGH(3), M-MODERATE(2), L-LOW(1)**

**Unit - I Focus and Purpose**

**(15 hours)**

- 1.1 Definition , Need (K1,K2,K3)
- 1.2 Importance of Organizational Behavior , Nature (K1,K2,K3)
- 1.3 Scope , Framework , Organizational behavior models (K1,K2,K3)
- 1.4 Challenges of OB ,Role of OB (K1,K2,K3)
- 1.5 Diversity in Organizations-Discrimination-Biographical Characteristics (K1,K2,K3)
- 1.6 Disabilities, Implementing Diversity Management Strategies (K1,K2,K3)

**Unit – II Individual Behavior**

**(15 hours)**

- 2.1 Personality, Types, Factors influencing personality (K1, K2, K3)
- 2.2 Theories, Learning, Types of Learners (K1, K2, K3)
- 2.3 Learning process, Learning theories, Organizational behavior modification (K1, K2, K3)
- 2.4 Emotional Intelligence, Attitudes, Characteristics, Components, Formation (K1, K2, K3)  
Measurement, Values, Perception, Importance
- 2.5 Factors influencing perception, Impression Management (K1, K2, K3)
- 2.6 Motivation, Theories, Maslow, Herzberg, Mc Clelland, Vrooms , X and Y Theory (K1, K2, K3)

**Unit – III Group Behavior**

**(15 hours)**

- 3.1 Groups in organizations, Influence (K1, K2, K3, K4)
- 3.2 Group dynamics (K1, K2, K3, K4)
- 3.3 Formal and informal (K1, K2, K3, K4)
- 3.4 Group cohesiveness, Group decision making techniques (K1, K2, K3, K4)
- 3.5 Interpersonal behaviour (K1, K2, K3, K4)
- 3.6 Work teams, Concept,Types, Effective teams (K1, K2, K3, K4)

## **Unit – IV Leadership and Power**

**(15 hours)**

- 4.1 Meaning, Importance (K1, K2, K3, K4)
- 4.2 Leadership styles, Theories, Leaders Vs Managers (K1, K2, K3, K4)
- 4.3 Sources of power, Power centers (K1, K2, K3, K4)
- 4.4 Power and politics, Communication (K1, K2, K3, K4)
- 4.5 Functions, Model, Choice of Communication (K1, K2, K3, K4)
- 4.6 Barriers to Effective Communication (K1, K2, K3, K4)

## **Unit – V Dynamics of Organizational Behavior**

**(15 hours)**

- 5.1 Organizational Change, Importance (K1, K2, K3, K4)
  - 5.2 Stability Vs change, Proactive Vs Reactive change (K1, K2, K3, K4)
  - 5.3 Change process, Resistance to change, Managing change , Stress (K1, K2, K3, K4)
  - 5.4 Work stressors, Prevention and management of stress (K1, K2, K3, K4)
  - 5.5 Balancing work and life, Organizational Development (K1, K2, K3, K4)
  - 5.6 Characteristics, Objectives, Organizational interventions(K1, K2, K3, K4)
- Note:** Case studies for all units. (K5,K6)

### **Text Books**

1. Stephen P. Robins, Organizational Behavior, PHI Learning Pearson Education, 11<sup>th</sup> Edition, 2008.
2. Stephen P. Robbins, Timothy A. Judge, Neharika Vohra, Organizational Behavior, PHI Learning Pearson Education, 18<sup>th</sup> Edition, 2019.

### **References**

1. Schermerhorn, John Wiley, Hunt and Osborn, Organizational Behavior, 9<sup>th</sup> Edition, 2008.
2. Udai Pareek, Understanding Organizational Behavior, Oxford Higher Education, 2<sup>nd</sup> Edition, 2004.

### **Websites**

1. [www.obweb.org](http://www.obweb.org)
2. [www.coursera.org](http://www.coursera.org)

## SEMESTER - II

### PCBAI20 - HUMAN RESOURCE MANAGEMENT

Year/Sem	Course Code	Title of the Course	Course type	Course Category	H/W	Credits	Marks
I / II	PCBAI20	Human Resource Management	Theory	Core	6	3	100

#### OBJECTIVES

1. To Provide insights on the basics of Human Resource Management.
2. To acquire skills on theoretical concepts for being a better employee in an organization.
3. To ascertain the significance of orientation and development of an employee with in an Organization.
4. To familiarize the methods to retain the skilled professionals within the Organization.
5. To absorb the outline of HRM in technically upgraded Business world.

#### COURSE OUTCOMES

The learners will be able to

**CO1:** Acquire Knowledge on the perspectives of HRM

**CO2:** Understand the formation of the concept of Best Fit Employee for a job

**CO3:** Study the Process of Executive and Career Development Programme

**CO4:** Understand the concepts, Benefits, of Sustaining Employee Interest

**CO5:** Acquires knowledge on Challenges in HRM .

CO	PO					
	1	2	3	4	5	6
CO1	H	M	H	H	H	M
CO2	H	H	H	H	H	M
CO3	M	H	H	M	H	H
CO4	M	M	M	M	M	H
CO5	H	H	H	H	M	H

PSO



CO	1	2	3	4	5	6
CO1	H	H	H	M	L	M
CO2	H	H	H	H	L	H
CO3	H	H	H	M	H	H
CO4	H	H	H	H	L	H
CO5	H	H	H	M	H	H

**H-HIGH(3), M-MODERATE(2), L-LOW(1)**

**Unit I: Perspectives in HRM**

**(15 hours)**

- 1.1 Evolution of HRM, Introduction, Functions and Objectives of HRM (K1,K2)
- 1.2 Qualities, Personnel Policies and Principles (K1, K2)
- 1.3 Human Resource Accounting and Audit,(K1, K2)
- 1.4 Importance, Factors affecting HRP, (K1, K2, K3)
- 1.5 Planning Process of HRP (K1, K2, K3)
- 1.6 HRIS, Requisites, Barriers to HRP (K1, K2, K3, K4)

**Unit II: Elements of Supply & Demand(15 hours)**

- 2.1 Recruitment, Importance, Factors Governing Recruitment, Internal and External factors,  
Recruitment Process, Internal & External Recruitment(K1, K2, K3, K4)
- 2.2 Selection, Process, Barriers to effective Selection (K1, K2, K3)
- 2.3 Inputs in Training & Development, Training Process, Types, Impediments (K1, K2, K3,)
- 2.4 Transfer - (K1, K2, K3)
- 2.5 Promotion (K1, K2)
- 2.6 Demotion. (K1, K2)

**Unit III: Executive Development  
hours)**

**(15**

- 3.1 Executive Development Programme, Process (K1, K2, K3,K4)
- 3.2 Orientation, Purpose, Requisites of an effective orientation Programme (K1, K2, K3)
- 3.3 Placement (K1, K2, K3)
- 3.4Performance Appraisal, Objectives, Process, Methods (K1, K2, K3)
- 3.5 Career Development (K1, K2, K3)
- 3.6 Career Planning (K1, K2, K3)

**Unit IV: Sustaining Employee Interest  
hours)**

**(15**

- 4.1 Remuneration, Rewards, Components, Factors , Challenges (K1, K2,K3,K4)
- 4.2 Concepts of Wages (K1, K2,)
- 4.3 Employee benefits and Services, Importance and Types (K1, K2)
- 4.4 Empowering employees, Scope and ways, Importance and Limitations - (K1, K2, K3)
- 4.5 Disputes, Causes, Settlement (K1, K2, K3)
- 4.6 Grievance Procedure (K1, K2, K3)

**UNIT V: Challenges in HRM  
hours)**

**(15**

- 5.1 HR Ethics (K1, K2,K3)
- 5.2 e HR activity(K1, K2,K3)
- 5.3 Challenges of HR, Global HR (K1, K2, K3)
- 5.4 Workforce Diversity (K1, K2, K3)
- 5.5 Competency Mapping (K1, K2, K3, K4)
- 5.6 Knowledge Management (K1, K2, K3)

**Note:** Case studies for all Units.(K5.K6)

**Text Books**

1. Aswathappa – Human Resource Management, 6<sup>th</sup> Edition & 8<sup>th</sup> Edition – Tata McGraw Hill Publication,2010.
2. Dessler, Garry V – Human Resources Management, 7<sup>th</sup> Edition – PHI,2010

**References Books**

1. Memoria C.B. and Memoria .S. – Personnel Management, 21<sup>st</sup> Edition – Himalaya publishing House,2010
2. Bernadin, Human Resource Management, Tata McGraw Hill,2006.

**Websites**

1. [www.network.hrmtoday.com](http://www.network.hrmtoday.com).
2. [www.edx.org](http://www.edx.org)

## SEMESTER IV

### PCBAP20 INTERNATIONAL BUSINESS AND ETHICS

Year/Sem	Course Code	Title of the Course	Course type	Course Category	H/W	Credits	Marks
II/IV	PCBAP20	International Business and Ethics	Theory	Core	6	3	100

#### COURSE LEARNING OBJECTIVES

1. To Develop Knowledge on Business Strategies and Culture in International Aspect and Familiarise the Learners with the International Trade and Business.
2. To acquire Skills on Foreign Direct Investments to implement in International Business.
3. To comprehend ethics in the work place.
4. To assist the students to know about emotional intelligence, IQ, Coping strategies, conflict resolution, effective communication.

#### COURSE OUTCOMES

The learners will be able to

**CO1:** Understand the emergence and needs of Globalization in Business and acquire the concepts of International Business theories and Strategies.

**CO2:** Study the requisites of FDI & Global Monetary System.

**CO3:** Understand the Culture Differences in Business.

**CO4:** Acquire the knowledge on Ethics in the workplace.

**CO5:** Analyze the Ethical issues and challenges.

CO	PO					
	1	2	3	4	5	6
CO1	H	M	H	M	M	H
CO2	H	M	H	M	M	M
CO3	M	M	H	M	H	M
CO4	M	H	M	H	H	H
CO5	M	H	M	H	M	H

CO	PSO					
	1	2	3	4	5	6
CO1	H	M	M	L	M	H
CO2	H	M	H	L	M	H
CO3	H	L	M	L	H	H
CO4	H	M	M	M	M	H
CO5	H	L	L	L	L	H

**H-HIGH(3), M-MODERATE(2), L-LOW(1)**

**Unit I: Introduction and Trade Theory (15 hours)**

- 1.1 Evolution of International Business, Nature of International Business (K1, K2, K3)
- 1.2 Emergence of Globalization, Managing Across Cultures - Strategies for Going International (K1, K2, K3)
- 1.3 International trade theory, Benefits of Foreign Trade, New Trade Theory (K1, K2, K3)
- 1.4 Globalization- Drivers & Restrainers of International Globalization (K1, K2, K3)
- 1.5 International Business, Types (K1, K2, K3)
- 1.6 Comparison between International and Domestic Business (K1, K2, K3)

**Unit II: Foreign Direct Investment (15 hours)**

- 2.1 Nature , Need , Theories of FDI (K1,K2, K3,K4)
- 2.2 Factors Influencing FDI. (K1, K2, K3, K4)
- 2.3The Global Monetary System (K1,K2,K3,K4)
- 2.4 Foreign Exchange Market (K1,K2,K3,K4)
- 2.5 Functions of Foreign Exchange Market(K1,K2,K3,K4)
- 2.6 Major International Financial Markets. (K1,K2,K3,K4)

**Unit III: Differences in Culture (15 hours)**

- 3.1 Need , Cultural Predispositions (K1,K2,K3,K4)
- 3.2 Cultural Models (K1,K2,K3,K4)
- 3.3 Communicating Across Cultures (K1,K2,K3,K4)
- 3.4 Barriers to Effective Cross(K1,K2,K3,K4)
- 3.5 Cultural Communication (K1,K2,K3,K4)
- 3.6 Human Resource Practices in the National Context(K1,K2,K3,K4)

**Unit IV: Ethics in Workplace****(15 hours)**

- 4.1 Business Ethics , Importance , Levels (K1,K2,K3,K4)
- 4.2 Myths , Law versus ethics , Legal versus moral business (K1,K2,K3,K4)
- 4.3 Rights and duties of employees (K1,K2,K3,K4)
- 4.4 Personnel policies , Trade unions (K1,K2,K3,K4)
- 4.5 Workplace ethics ,Health and Safety (K1,K2,K3,K4)
- 4.6 Conflict Discrimination , Sexual Harassment. (K1,K2,K3,K4)

**Unit V: Ethical Challenges****(15 hours)**

- 5.1 Environmental Challenges (K1,K2,K3,K4)
- 5.2 Role of Government (K1,K2,K3,K4)
- 5.3 Challenges of cyber Act (K1,K2,K3,K4)
- 5.4 Challenges of Violence (K1,K2,K3,K4)
- 5.5 Business and Terrorism (K1,K2,K3,K4)
- 5.6 Multinational Challenges of Gender rights and Human rights. (K1,K2,K3,K4)

**Note:** Case Studies for all Units(K5.K6)**Text Books:**

1. Francis Cherunilam., International Business: Text and Cases, 5<sup>th</sup> Edition, PHI Learning,2010.
2. K.Asathappa, International Business, 6<sup>th</sup> Edition, McGraw Hill Education,2015

**Reference Books:**

1. Hill, C.W.L. and Jain, A.K., International Business: Competing in the Global Marketplace, 6<sup>th</sup> Edition, Tata McGraw-Hill Education,2008.
2. Ball, D., Geringer, M., Minor, M. and McNett, J., International Business: The Challenge of Global Competition, 11<sup>th</sup> Edition, Tata-McGraw-Hill Education,2009.

**Websites**

1. [www.globethics.net](http://www.globethics.net),
2. [www.mhhe.com/aswathappaib6e](http://www.mhhe.com/aswathappaib6e)

**INDEPENDENT ELECTIVE PAPER - 1****PIBAA20 - MANAGEMENT CONCEPTS IN THIRUKKURAL**

Year/ Sem	Course Code	Title of the Course	Course type	Course Category	H/W	Credits	Marks
I / I	PIBAA20	Management Concepts in Thirukkural	Theory	Independent Elective	-	2	100

## OBJECTIVES

1. To Furnish and Prepare the Learners to expose the students of Management Studies to learn Business Ethics from related Thirukkural Verses
2. To Familiarize the Learners with the Essentials of Goal Setting and Investment Decision through Thirukkural
3. To Imbibe the Wards on Executing Decision Making Process and Leadership
4. To inhibit knowledge on Social Responsibility and Stress Management
5. To Generate Awareness on Personnel Selection and their welfares

## COURSE OUTCOMES

The learners will be able to

CO1: Acquire Knowledge on Verses of Thirukkural in Business Ethics

CO2: Understand the formation and need for Decision Making Process and Leadership

CO3: Study the requisites of Goal Setting and Capital Investment Decision

CO4: Understand the Concepts and Scope of Social Responsibility and Stress Management

CO5: Acquire knowledge on Personnel Selection and Welfare.

CO	PO					
	1	2	3	4	5	6
CO1	H	M	M	H	H	M
CO2	M	M	M	M	H	M
CO3	H	M	H	H	M	M
CO4	H	H	H	M	M	H
CO5	H	H	H	H	H	M

CO	PSO					
	1	2	3	4	5	6
CO1	H	M	H	M	H	H

<b>CO2</b>	H	H	M	H	H	H
<b>CO3</b>	H	H	H	M	H	H
<b>CO4</b>	H	H	H	H	H	H
<b>CO5</b>	H	H	H	M	H	H

**H-HIGH(3), M-MODERATE(2), L-LOW(1)**

### **Unit I - Business Ethics in Thirukkural**

- 1.1 Business Ethics – Definition (K1, K2)
- 1.2 Concept (K1, K2)
- 1.3 Principles (K1, K2, K3)
- 1.4 Ethical Challenges for Business (K1, K2, K3)
- 1.5 Adapting to Changing Environment in Verse 474, 426 and verse 140 (K1, K2, K3)
- 1.6 Learning the Intricacies of Different Tasks in Verse 462 and 677(K1, K2, K3, K4)

### **Unit II - Decision Making and Leadership in Thirukkural**

- 2.1 Decision Making (K1, K2)
- 2.2 Principles in Decision Making – Verse 948, 472, 467, 663 (K1, K2)
- 2.3 Techniques for Improving Decision Making (K1, K2, K3)
- 2.4 Leadership in Verse 436, 770, and 994. (K1, K2, K3)
- 2.5 Features (K1, K2, K3)
- 2.6 Theories (K1, K2, K3, K4)

### **Unit III - Goal Setting and Investment Decision in Thirukkural**

- 3.1 Goal Setting, Definition (K1, K2)
- 3.2 Guidelines (K1, K2)
- 3.3 Benefits (K1, K2)
- 3.4 Planning Verse 468 (K1, K2, K3)
- 3.5 Types of Plans (K1, K2, K3)
- 3.6 Capital Investment Decision Verse 471, 461 and 478 (K1, K2, K3, K4)

### **Unit IV - Social Responsibility and Stress Management in Thirukkural**

- 4.1 Social Responsibility of Business (K1, K2)
- 4.2 Types (K1, K2)
- 4.3 Examples of Corporate Social Responsibility (K1, K2, K3)
- 4.4 Stress Management (K1, K2, K3)
- 4.5 Ways to Reduce Stress (K1, K2, K3)
- 4.6 Stress Management according to Thiruvalluvar (K1, K2, K3, K4)

## **Unit V - Staffing in Thirukkural**

- 5.1 Selection and Employment Verse 515 (K1, K2)
- 5.2 Importance & Methods of Selection (K1, K2, K3)
- 5.3 Personnel Welfare in Verse 520 (K1, K2, K3)
- 5.4 Staffing in Verse 517 (K1, K2)
- 5.5 Nature of Staffing (K1, K2)
- 5.6 Importance of Staffing (K1, K2, K3)

**Note:** Case Studies for all Units. (K5.K6)

### **Text Books:**

1. K.Nagarajan - Management Thoughts in Thirukkural,, ANMOL Publications PVT Ltd 4374/4B Ansari Road, New Delhi 110 002, 2011.

### **Reference Books:**

1. SM.Veerappan and T.Srinivasan - Management MANTRAS from Thirukkural — Vikash Publishing House Pvt Ltd, Jangpura – NewDelhi 110 014,2002

### **Websites**

1. [www.coursera.org](http://www.coursera.org)

## **INDEPENDENT ELECTIVE PAPER - 3**

### **PIBAC20 - INDUSTRIAL SAFETY AND POLLUTION MANAGEMENT**

<b>Year/ Sem</b>	<b>Course Code</b>	<b>Title of the Course</b>	<b>Course type</b>	<b>Course Category</b>	<b>H/W</b>	<b>Credits</b>	<b>Mark</b>
I / I	PIBAC20	Industrial Safety and Pollution Management	Theory	Independent Elective	-	2	100

### **OBJECTIVES**



1. To Acquaint the Students about Safety Management, Responsibilities of Safety, Safety Officer & Committee
2. To Gain Insight on Industrial Accidents
3. To Imbibe the Methods of Maintaining Harmony within the Industry
4. To Ascertain the Procedures of Environmental Safety
5. To Inhibit Knowledge on Environmental Pollution Act

### **COURSE OUTCOMES (CO)**

The learners will be able to

**CO1:** Acquire Knowledge on Industrial safety Management

**CO2:** Understand the formation and need for insight on Industrial Accidents

**CO3:** Attain knowledge in the requisites of legal provisions towards Safety

**CO4:** Understand the concepts of Environmental Management

**CO5:** Acquires knowledge on Environmental Pollution Act.

CO	PO					
	1	2	3	4	5	6
CO1	M	M	M	H	M	M
CO2	M	M	H	H	M	H
CO3	H	H	H	H	H	H
CO4	H	H	H	M	H	H
CO5	M	H	M	M	H	H

CO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	H	M	M
CO2	H	H	H	M	M	H
CO3	H	H	H	H	H	H
CO4	H	H	H	H	H	H
CO5	H	H	H	M	H	H

**H-HIGH (3), M-MODERATE (2), L-LOW (1)**

## **Unit I: Management of Safety in Industry**

- 1.1 Concept (K1, K2)
- 1.2 Applicable areas - Unsafe actions and Conditions (K1, K2)
- 1.3 Responsibility of Safety – Society, Government, Management, Union and Employees Appointment (K1, K2, K3)
- 1.4 Qualification (K1, K2)
- 1.5 Duties of Safety Officer (K1, K2)
- 1.6 Safety Committee – Membership - Functions –Scope of Safety – Training of employees for Safety in Industrial Operations (K1, K2, K3, K4)

## **Unit II: Industrial Accidents**

- 2.1 Causes & effects of Industrial Accidents (K1, K2)
- 2.2 Accident Ratio Theory (K1, K2, K3)
- 2.3 Cost of Accidents (K1, K2)
- 2.4 Impact of Accidents on employees (K1, K2, K3)
- 2.5 Responsibility in the prevention of Accidents (K1, K2, K3 )
- 2.6 Union, Management, Society and their role.(K1, K2,K3,K4)

## **Unit III: Legal Provisions Regarding Safety**

- 3.1 Legal provisions regarding safety (K1, K2)
- 3.2 Accident Prevention & Compensation under Factories Act -1948 (K1, K2, K3)
- 3.3 Fatal Accident Act (K1, K2)
- 3.4 Functions of National Safety Council –Accidents – Recording – Investigation – Analysis and Reporting (K1, K2, K3, K4)
- 3.5 Workmen Compensation Act 1923 (K1, K2, K3)
- 3.6 ESI Act Public Liabilities Insurance Act – 1991 (K1, K2, K3)

## **Unit IV: Industrial Enchantment for Environmental Safety**

- 4.1 Environmental Protection Act 1986 (K1, K2)
- 4.2 Definition (K1, K2,)
- 4.3 Occupier (K1, K2)
- 4.4 Handling of Hazardous Substance (K1, K2, K3,K4 )
- 4.5 Offences by Companies (K1, K2, K3)
- 4.6 Penalties for the Contravention of the Act (K1, K2, K3)

## **UNIT V: Environmental Pollution Act**

- 5.1 Air Pollution Act 1942- Definition – Air Pollution (K1, K2)
- 5.2 Chimney – Approval & Its Role (K1, K2, K3)
- 5.3 Fuel – Emission, Powers & Functions of Central & State Boards (K1, K2, K3)

- 5.4 Water Pollution Act 1974 – Definition – Sewage & Trade effluent – Outlet stream Offences by Companies, Penalties & Procedures (K1, K2, K3, K4)
- 5.5 Noise Pollution Act – Definition of Sound & Noise – Sources of Noise – Measurement of Noise – Effect of Noise (K1, K2, K3)
- 5.6 Physiological, Psychological & Behavioral – Noise Control (K1, K2, K3)

**Note:** Case studies for all Units .(K5.K6)

### **Text Books**

1. Donald Hanter , Health in Industry Penguin, London; 1st Edition edition (1959)

### **Reference Books**

1. P. K. Trivedi Environmental Protections and Law Neha Publishers & Distributors (1994)

### **Websites**

[www.coursera.org](http://www.coursera.org)

## **INDEPENDENT ELECTIVE 12**

### **PIBAL20 WORK LIFE BALANCE AND EMOTIONAL INTELLIGENCE**

<b>Year/Sem</b>	<b>Course Code</b>	<b>Title of the Course</b>	<b>Course type</b>	<b>Course Category</b>	<b>H/W</b>	<b>Credits</b>	<b>Marks</b>
II/IV	PIBAL20	Work Life Balance and Emotional Intelligence	Theory	Independent Elective	-	2	100

### **OBJECTIVES**

1. To equip the students to manage, time, relationship, work life, conflict and cross culture controversies.

2. To introduce students to theories and problem solving skills and cross cultural etiquette.
3. To develop students' skills related to problem solving.
4. To assist the students to know about emotional intelligence, IQ, Coping strategies, conflict resolution, effective communication.

### **COURSE OUTCOMES**

The learners will be able to

**CO1:** Assess an organization and introduce to work life Balance insisting on spirituality in the work place.

**CO2:** Acquire knowledge critical thinking, interpersonal relations and conflict management.

**CO3:** Enhance creativity and get an in depth knowledge on event management.

**CO4:** Ability to comprehend Emotional Intelligence with its concepts and nature.

**CO5:** Assess the potential effects emotions with the various process in the Organization.

CO	PO					
	1	2	3	4	5	6
CO1	H	H	M	M	H	M
CO2	H	H	M	M	H	M
CO3	M	H	H	M	H	M
CO4	M	M	H	H	M	H
CO5	M	H	H	H	M	H

CO	PSO					
	1	2	3	4	5	6
CO1	L	L	L	L	L	L
CO2	L	L	M	L	L	M
CO3	L	M	M	M	M	L
CO4	L	M	M	L	M	L
CO5	L	M	L	L	M	L

**H-HIGH(3), M-MODERATE(2), L-LOW(1)**

### **Unit – I Soft skill**

- 1.1 Introduction, Self Image, Self Esteem for image management (K1, K2, K3)
- 1.2 personal branding, Emotional Intelligence in Management– IQ – EQ – SQ (K1, K2, K3)
- 1.3 Introduction, Sources of stress, Effects of stress (K1, K2, K3)

- 1.4 Coping with stress, Work-life balance (K1, K2, K3)
- 1.5 Spirituality at work place, Time management, Importance (K1, K2, K3)
- 1.6 Analysis of time, Planning, Setting and achieving goal (K1, K2, K3)

### **Unit – II Effective Living**

- 2.1 Critical thinking, Decision making (K1, K2, K3, K4)
- 2.2 Problem solving skills, Relationship Management (K1, K2, K3, K4)
- 2.3 Work-life balance, Crisis management, Importance (K1, K2, K3, K4)
- 2.4 Developing interpersonal skills, Conflict management (K1, K2, K3, K4)
- 2.5 Transactional analysis, corporate etiquette (K1, K2, K3, K4)
- 2.6 Cross-cultural intelligence (K1, K2, K3, K4)

### **Unit – III Creativity Management**

- 3.1 Innovation (K1, K2, K3, K4)
- 3.2 Creativity (K1, K2, K3, K4)
- 3.3 Importance (K1, K2, K3, K4)
- 3.4 Developing creativity (K1, K2, K3, K4)
- 3.5 Enhancing creativity (K1, K2, K3, K4)
- 3.6 Event Management (K1, K2, K3, K4)

### **Unit - IV Mind and Emotions**

- 4.1 Concept, Marshmallow experiment (K1, K2, K3, K4)
- 4.2 Consequences of low and high emotional intelligence (K1, K2, K3, K4)
- 4.3 Myths about EI (K1, K2, K3, K4)
- 4.4 Difference between and EI and IQ (K1, K2, K3, K4)
- 4.5 Negative and positive emotions (K1, K2, K3, K4)
- 4.6 Nature of EI, Development of EI (K1, K2, K3, K4)

### **Unit - V Managing Emotions**

- 5.1 Learning emotional skills, recognizing emotions (K1, K2, K3, K4)
- 5.2 Learning to empathize, Measuring EI dealing with emotional upsets (K1, K2, K3, K4)
- 5.3 EI and leadership effectiveness (K1, K2, K3, K4)
- 5.4 Levels of EI required for various jobs (K1, K2, K3, K4)
- 5.5 EI and credibility of managers, EI and conflict resolution (K1, K2, K3, K4)
- 5.6 EI and effective communication (K1, K2, K3, K4)

**Note:** Case studies for all units. (K5.K6)

**Text Books:**

1. Shalini Verma, Enhancing Employability and Soft skills, Always Learning, Pearson Education, 1<sup>st</sup> Edition,2012.

**Reference Books**

1. Edgar Thorpe, Showick Therpe, Winning at Interviews, Always Learning, Pearson Education1<sup>st</sup> Edition,2012.

**Websites**

1. [www.udmey.com](http://www.udmey.com)

**SEMESTER – I**  
**PCBCA20 BIOMOLECULES**

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks 100
I / I	PCBCA20	Biomolecules	Theory	Core	6	5	40+60=100

**Objective:**

To understand the salient features of biomolecules in the organization of life.

**Course Outcome (CO)**

On completion of the course, the students will be able to;

1. Outline the structural features, properties and biological importance of carbohydrates
2. Attain idea on the structural and biological aspects of proteins
3. Examine the structure of nucleic acids, its isolation and sequencing techniques
4. Gain knowledge on the structure, different forms and significance of lipids in the system
5. List out the significance of vitamins, its deficiency diseases and about the porphyrin ring containing molecules in living system

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	M	M	M	H	M
CO 2	H	M	M	H	H	M
CO 3	H	H	M	H	H	M
CO 4	H	H	M	H	H	M
CO 5	H	H	L	L	H	L
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	M	M	M	M	H
CO 2	H	M	H	M	H	H
CO 3	H	H	H	H	M	H
CO 4	H	M	M	M	M	M
CO 5	H	H	M	M	H	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

**Unit I:**

**(18 Hours)**

- 1.1 Carbohydrates: Monosaccharides (Glucose, Fructose, Galactose, Mannose)- Structure, Functions. (K1, K2, K3)
- 1.2 Polysaccharides - Occurrence, structure, isolation, properties and functions of homoglycans - starch, glycogen, cellulose, dextrin, inulin, chitins, xylan, arabinans, galactans (K1, K2, K3, K4, K5)
- 1.3 Occurrence, structure, properties, and functions of heteroglycans - bacterial cell wall

polysaccharides, glycosamino glycans (K1, K2, K3)

- 1.4 Occurrence, structure, properties, and functions of agar, alginic acid, pectin, amino sugars and deoxy sugars, blood group substances and sialic acids. (K1, K2, K3)
- 1.5 Glycoprotein and their biological applications. (K1, K2, K3)
- 1.6 Lectins structure and functions. (K1, K2, K3)

**Unit II: (18 Hours)**

- 2.1 Proteins: Classification of proteins on the basis of solubility and shape, structure, and biological functions. (K1, K2, K3)
- 2.2 Isolation, fractionation and purification of proteins. (K1, K2, K3)
- 2.3 Denaturation and renaturation of proteins. Primary structure - determination of amino acid sequence of proteins (K1, K2, K3)
- 2.4 Peptide bond: Ramachandran plot. (K1, K2, K3)
- 2.5 Secondary structure - weak interactions involved- alpha helix and beta sheet and beta turns structure. Pauling and Corey model for fibrous proteins. Collagen triple helix. Super secondary structures - helix-loop-helix. (K1, K2, K3)
- 2.6 Tertiary structure - alpha and beta domains. Quaternary structure - structure of hemoglobin. Solid state synthesis of peptides. (K1, K2, K3)

**Unit III: (18 Hours)**

- 3.1 Nucleic acids: Watson - Crick model of DNA structure. (K1, K2, K3)
- 3.2 A, B and Z - DNA Cruciform structure in DNA, formation and stability of cruciforms, miscellaneous alternative conformation of DNA, slipped mispaired DNA, parallel stranded, anisomorphic DNA (K1, K2, K3)
- 3.3 Palindrome, secondary and tertiary structure of DNA (K1, K2, K3)
- 3.4 Methods for nucleic acid sequence determination, denaturation, strand separation, fractionation, isolation and purification of DNA (K1, K2, K3, K4, K5, K6)
- 3.5 Cot curve, hypochromic effect, DNA-protein interactions. Molecular hybridization. (K1, K2, K3, K4)
- 3.6 Structure and functions of mRNA, rRNA and tRNA, Heterogenous nuclear RNA (HnRNA) (K1, K2, K3)

**Unit IV: (18 Hours)**

- 4.1 Lipids: Lipids – classification-simple, compound, derived. (K1, K2, K3)
- 4.2 Fatty acids: saturated and unsaturated fatty acids. (K1, K2, K3, K4)
- 4.3 Phospholipids - classification, structure and functions. (K1, K2, K3)
- 4.4 Amphipathic lipids -membranes, micelles, emulsions and liposomes. (K1, K2)
- 4.5 Steroids - structure and biological role of cholesterol, bile acids and bile salts. (K1, K2, K3)
- 4.6 Eicosanoids – Structure and Functions of Prostaglandins, thromboxanes, leukotriens. Types and functions of plasma lipoproteins. (K1, K2, K3)



**Unit V:****(18 Hours)**

- 5.1 Vitamins - Sources, structure, daily requirements, biochemical functions and deficiency diseases of water-soluble vitamins (K1, K2, K3, K4)
- 5.2 Vitamins - Sources, structure, daily requirements, biochemical functions and deficiency diseases of fat -soluble vitamins. (K1, K2, K3)
- 5.3 Porphyrins – Biosynthesis (K1, K2, K3)
- 5.4 Porphyrins- the porphyrin ring system of chlorophyll (K1, K2, K3)
- 5.5 Porphyrins- the porphyrin ring system of hemoglobin and myoglobin (K1, K2, K3)
- 5.6 Porphyrin ring system of Cytochrome (K1, K2, K3)

**[Knowledge Level: K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create]**

**Text Books:**

1. David L. Lehninger's Principle of Biochemistry. Nelson and Michael M. Cox. W. H. Freeman; 4<sup>th</sup> edition, 2004.
2. Voet and Voet. Fundamentals of Biochemistry. John Wiley and sons NY, 2<sup>nd</sup> edition, 2002.

**Reference Books:**

1. Martin David W, Harper, Harold A - Harper's review of Biochemistry- 31<sup>st</sup>edition, 2018.
2. Stryer L. Biochemistry. W.H. Freeman and Co. 5<sup>th</sup> edition, 2002.
3. Thomas. M. Devlin. Text Book of Biochemistry with clinical correlation. John Wiley-Liss, Hoboken NJ publishers, 2006.
4. West, Todd, Mason, Vanbruggen - Textbook of Biochemistry, Oxford Publishers, - 4<sup>th</sup>edition,2000.
5. Eric E Conn, P.K Stumpf, G. Brueins and Ray H Doi, John. Outlines of Biochemistry. Wiley and Sons. 5<sup>th</sup> edition, 2005.

**Open Educational Resources (OER):**

1. <https://youtu.be/N64RAIG49rY>
2. <https://youtu.be/Nh0Km4bv18>
3. <https://youtu.be/eb5PPWFZzx1>
4. <https://youtu.be/Sh3eolzdrdl>
5. <https://youtu.be/Qv-KExGKAYw>

## SEMESTER – I

### PCBCB20 - HUMAN PHYSIOLOGY AND NUTRITION

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
I/I	PCBCB20	Human Physiology and Nutrition	Theory	Core	6	5	40+60= 100

#### Objective:

To study about the Physiological system of human body and Nutrients with their deficiencies.

#### Course Outcomes (CO)

On completion of the course, the students will be able to:

1. Outline the physiological system of the human body
2. Describe the general function of each organ system
3. Assess the activities of organs for maximum efficiency
4. Explain the physiology of muscle and neurotransmitters
5. Utilize knowledge on nutrients with their deficiencies

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	H	H	H	H	M
CO 2	H	H	H	H	M	M
CO 3	H	H	L	H	M	M
CO 4	H	H	H	H	M	M
CO 5	H	L	H	H	H	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	H	H	H	M
CO 2	H	H	H	L	M	M
CO 3	H	H	H	H	M	M
CO 4	H	H	H	H	M	M
CO 5	H	H	L	H	H	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

#### Unit I:

(18 Hours)

- 1.1 Composition and functions of blood and plasma. Blood groups (K1, K2, K3, K4)
- 1.2 Blood coagulation - mechanism, fibrinolysis, anticoagulants (K2, K3, K4)
- 1.3 Hemoglobin - structure, abnormal types of Hemoglobin (K2, K3, K4)
- 1.4 Structure of heart, cardiac cycle, heart sounds, E.C.G (elementary knowledge) (K2, K3)

- 1.5 Vasomotor circulation, coronary circulation, blood pressure (K2, K3)
- 1.6 Spleen, Lymph-composition and function of lymph -lymph Organs. (K2, K3)

**Unit II: (18 Hours)**

- 2.1 Composition, functions and regulation of saliva, gastric, pancreatic, intestinal and bile secretions (K1, K2, K3, K4)
- 2.2 Digestion and absorption of carbohydrates and lipids (K2, K3, K4)
- 2.3 Digestion and absorption of proteins (K2, K3, K4)
- 2.4 Excretory system - structure of Kidney and nephron (K2, K3)
- 2.5 Formation of urine - glomerular filtration (K2, K3, K4)
- 2.6 Tubular reabsorption of glucose, water and electrolytes, tubular secretion. (K2, K3, K4)

**Unit III: (18 Hours)**

- 3.1 Structure and functions of organs of respiration. (K2, K3, K4)
- 3.2 Mechanism and regulation of respiration Transport of gases - O<sub>2</sub> and CO<sub>2</sub>. (K2, K3)
- 3.3 Acid-base balance: Acidosis and alkalosis - Fluid electrolyte balance - regulation of water balance and sodium balance, Role of renin-angiotensin and ADH. (K2, K3, K4)
- 3.4 Structure and Function of Male and Female reproductive organs (K2, K3, K4)
- 3.5 Menstruation (K3, K4)
- 3.6 Physiology of pregnancy, parturition and lactation (K2, K3, K4)

**Unit IV: (18 Hours)**

- 4.1 Chemical composition and metabolic adaptation, neurotransmitters and cAMP, biochemical aspects of learning and memory, enkephalins and endorphins. (K2, K3)
- 4.2 Structure and function of nerves, neurons, resting and action potential. (K2, K3, K4)
- 4.3 Transmission of nerve impulses, synaptic transmission, compounds affecting synaptic transmission and neuromuscular junction. (K2, K3)
- 4.4 Composition and functions of cerebrospinal fluid. (K2, K3, K4)
- 4.5 Structure of muscle cells, muscle contraction and molecular organization of muscle (K2, K3, K4)
- 4.6 Proteins of contractile element - their organization and role in contraction (K2, K3)

**Unit V:****(18 Hours)**

- 5.1 Basal metabolism- basal metabolic rate, factors affecting BMR, determination of BMR - direct and indirect method. (K1, K2, K3, K4)
- 5.2 Respiratory quotient - biological oxygen demand, their importance in nutrition (K2, K3)
- 5.3 Nutrition at different stages of life - during infancy, adolescence, pregnancy and Geriatrics. (K2, K3)
- 5.4 Role of fiber in diet and role of essential amino acids (K2, K3, K4)
- 5.5 Protein Malnutrition: Marasmus and Kwashiorkor. (K2, K3)
- 5.6 Minerals- macro and micro elements, [Fe, Cu, Zn, I, Ca, Na, Cl, K, P, Mg] daily requirements, functions and deficiency manifestations. (K2, K3)

**Text Books:**

1. Ross & Wilson- Anatomy and Physiology in Health and illness- Elsevier-13<sup>th</sup> Edition,2018
2. C.C. Chatterjee- Human Physiology- CBS publishers-12<sup>th</sup> Edition,2018

**Reference Books:**

1. Ganong's Review of Medical physiology- McGraw Hill Education-25<sup>th</sup> Edition,2016
2. Guyton and Hall -Textbook of Medical Physiology- Elsevier- 13<sup>th</sup> Edition,2016
3. Davidson -Human Nutrition and Dietetics- Churchill Livingstone- 8<sup>th</sup> Edition,2008
4. M.E. Skilis and V.R. Young-Modern Nutrition and Health Diseases,2008
5. M.S. Swami Nathan- Principles of Nutrition- New Age Publications-5<sup>th</sup> Edition ,2011

**Open Educational Resources (OER):**

1. <https://www.youtube.com/watch?v=BxV06Zn0Kck>
2. <https://www.youtube.com/watch?v=tXXEn6IdLPY>
3. <https://www.youtube.com/watch?v=HI-R8uAh2fl>
4. <https://www.youtube.com/watch?v=YKULwuxgUE0>
5. [https://www.youtube.com/watch?v=LKZZrJjI\\_NI](https://www.youtube.com/watch?v=LKZZrJjI_NI)

**SEMESTER – I**  
**PCBCC20 - CELL BIOLOGY**

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks 100
I/I	PCBCC20	Cell Biology	Theory	Core	5	4	40+60=100

**Objectives:**

To understand the Cell, Cell organelles structure, function and metabolism.

**Course Outcome (CO):**

On completion of the course, the students will be able to:

1. Relate cell as basic unit of life, its structure, organization and importance of molecular motors
2. Discuss about the various sub-cellular components of cells and its functions in the biological system
3. Assess the knowledge on techniques adopted for the identification of cellular components and cancerous cell
4. Identify the different types of cell-cell communication and its significance
5. Describe clearly about the mechanism of cell signalling and cell death

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	H	M	M	H	L
CO 2	H	H	H	H	L	M
CO 3	H	H	H	L	H	H
CO 4	H	H	L	H	H	M
CO 5	H	H	H	M	H	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	M	M	H	L
CO 2	H	M	H	H	H	M
CO 3	H	H	H	H	L	H
CO 4	H	L	M	H	H	M
CO 5	H	H	H	M	H	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

**Unit I:**

**(15 Hours)**

- 1.1 Scope of cell Biology- History of cell Biology - Cell Theory – Cell Diversity: Size, Shape, Internal organization - Cell types: Prokaryotic and Eukaryotic (K1, K2, K3)
- 1.2 Functions of Cell – Prokaryotic cell: Structural Organization with the examples: Mycoplasma, *E. Coli*, Cyanobacteria (K1, K2, K3)

- 1.3 Eukaryotic cell: Structural Organization - Plant cell and Animal Cell (K1, K2, K3)
- 1.4 Plasma membrane – Structure – Molecular Model of Plasma membrane – Functions (K1, K2, K3)
- 1.5 Specializations of cell membrane – microvilli, Desmosomes, Gap junction, Tight junctions, Plasmodesmata - Cell wall – Structure – pits – functions (K1, K2, K3)
- 1.6 Structure, Composition and function of Cilia – Flagella – Filaments - Microtubules – Centrioles - Basal bodies (K1, K2, K3)

**Unit II: (15 Hours)**

- 2.1 Cellular organelles: Morphology and functions of Cytoplasm, Nucleus and nucleolus (K1, K2, K3)
- 2.2 Morphology and functions of Endoplasmic reticulum (K1, K2, K3)
- 2.3 Morphology and functions of Golgi apparatus (K1, K2, K3)
- 2.4 Morphology and functions of Mitochondria (K1, K2, K3)
- 2.5 Morphology and functions of Plastids (K1, K2, K3)
- 2.6 Morphology and functions of Lysosomes and Microbodies (K1, K2, K3)

**Unit III: (15 Hours)**

- 3.1 Cell-cell interaction - Cell adhesion proteins - Cell surface of plant, animal and cancer cells (K1, K2, K3)
- 3.2 Overview of membrane protein - peripheral and integral, molecular model of cell membrane: fluid mosaic model and membrane fluidity (K1, K2, K3)
- 3.3 Transport systems: passive and active transport by ATP powered pumps. (K1, K2, K3)
- 3.4 Chromosome – Structure and Functions (K1, K2, K3)
- 3.5 Cell cycle - phases of cell cycle - Cell division - Mitosis, (K1, K2, K3)
- 3.6 Cell division: Meiosis - Regulation of cell growth (K1, K2, K3)

**Unit IV: (15 Hours)**

- 4.1 Cell aging and death - necrosis and apoptosis (K1, K2, K3)
- 4.2 Mitochondrial and death receptor pathway (K1, K2, K3)
- 4.3 Cell signaling –Types of cell signaling-Ion channel linked; G-protein coupled receptors (K1-K5)
- 4.4 Receptor tyrosine kinases and Ras, MAP kinase pathways (K1, K2, K3)
- 4.5 Insulin receptor pathway (K1, K2, K3)
- 4.6 Functions of cell surface receptors, pathways of intracellular signal transduction (K1, K2, K3)

**Unit V:****(15 Hours)**

- 5.1 Methods in cell biology: Microscopy – fluorescence, electron microscopy and phase contrast microscope. (K1, K2, K3)
- 5.2 Methods for disrupting tissues and cells, organ and tissue slice techniques
- 5.3 Isolation of clones, tissue culture techniques (Animal and Plant) (K1, K2, K3)
- 5.4 Cell fixation -fluid fixatives, freezing and section drying, fixation for electron microscopy - buffered osmium solutions, fixation of organic and inorganic substances (K1, K2, K3)
- 5.5 Staining techniques acid and basic, fluorescent and radioactive dyes, staining of lipids, steroids, nucleic acids, proteins and enzymatic reaction products. (K1, K2, K3)
- 5.6 Histopathological studies - organ specific morpho histological examination, identification of morphological changes related to pathology. (K1, K2, K3)

**Textbooks:**

1. A.K Berry. A text book of Cell Biology. Emkey Publication,2014.
2. The Cell: A Molecular Approach by Cooper G.M and Hausman, 6<sup>th</sup> edition, Sinauer Associates, Inc, 2013.

**Reference Books:**

1. Becker, Klein smith and Harden. The World of the Cell. Academic Internet Publishers; 5<sup>th</sup> edition, 2015.
2. Geoffrey M. Cooper and Robert E Hausma. The Cell: A Molecular Approach. Oxford University Press,7<sup>th</sup> edition, 2015.
3. Gerald Karp. Cell and Molecular Biology by concepts and experiments John Wiley sons &Inc, 2016.
4. Harvey Lodish. Molecular cell Biology. W. H. Freeman; Sol edition, 2007.
5. J. Brachet and A. E. Mirsky. The Cell - Biochemistry, physiology and morphology, Academic Press, 2014.

**Open Educational Resources (OER):**

1. <https://m.ypotube.com/watch?v=bRcjB11hDCU>
2. <https://m.youtube.com/watch?v=ZyWYID2cTK0>
3. <https://youtu.be/qAoa94WBaIc>
4. <https://m.youtube.com/watch?v=J5pWH1r3pgU>
5. <https://m.youtube.com/watch?v=jRZHDhHf3tA>

**SEMESTER – I**

**PEBCA20 ELECTIVE I A: BIOPHYSICAL CHEMISTRY**

Year/ Sem I / I	Course Code PEBCA20	Title of the Course Biophysical Chemistry	Course Type  Theory	Course Category Elective I A	H/W  3	Credits  3	Marks  40+60=100
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**Objective:**

**To make the students to understand the concepts of bioenergetics and techniques.**

**Course Outcome (CO):**

On completion of the course, the students will be able to,

1. Demonstrate the concept of bioenergetics and its importance
2. Describe the spectroscopic techniques – NMR, UV and MS
3. Define and recognize covalent bonding between atoms in molecules.
4. Classify organic molecules by their functional groups
5. Compare the isomeric relationship

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	H	H	H	H	M
CO 2	H	H	H	H	M	M
CO 3	H	H	L	H	M	M
CO 4	H	H	H	H	M	M
CO 5	H	L	H	H	H	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	H	H	H	M
CO 2	H	H	H	L	M	M
CO 3	H	H	H	H	M	M
CO 4	H	H	H	H	M	M
CO 5	H	H	L	H	H	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

**Unit I:**

**(9 hours)**

- 1.1 Bioenergetics: Thermodynamics - basic concepts (K1, K2)
- 1.2 First, second and third laws of thermodynamics (K2, K3)
- 1.3 Enthalpy and entropy, exothermic and endothermic reactions - Free energy (K1, K3)
- 1.4 Measurement of free energy in chemical reactions (K1, K2, K3)
- 1.5 Equilibrium for biochemical reactions (K1, K2)
- 1.6 High energy phosphates, Redox reactions and free energy changes in biological reactions (K2, K3)



**Unit II:** (9 hours)

- 2.1 Spectroscopy and structural elucidation (K1, K2)
- 2.2 Regions of the spectrum (K2, K3)
- 2.3 Basic principles of UV, NMR and mass spectrometry and their biological applications (K3, K4)
- 2.4 FT-NMR Nuclear overhauser effect (K3)
- 2.5 Use of X-ray crystallography in the study of proteins and nucleic acids (K1, K3)
- 2.6 Use of CD in the study of proteins and nucleic acids (K1, K2)

**Unit III:** (9 hours)

- 3.1 Atomic structure and chemical bonds (K1, K2)
- 3.2 Atomic orbitals, quantum numbers. Shapes of s, p and d orbitals (K3)
- 3.3 Aufbau principle, Pauli exclusion principle and Hund's rule (K2, K3)
- 3.4 Electronic configuration of atoms (K2)
- 3.5 Formation of chemical bonds, octet rule (K1, K3)
- 3.6 Ionic bond, covalent bond and co-ordinate bonds with examples (K1, K2)

**Unit IV:** (9 hours)

- 4.1 Functional groups and reactions - Classification of organic compounds based on functional groups and their nomenclature (K1, K2, K3)
- 4.2 Biologically important organic compounds (names and structures) (K3)
- 4.3 Homolytic and heterolytic cleavage of covalent bonds (K1, K3)
- 4.4 Reactive species: electrophiles, nucleophiles and radicals (K1, K2)
- 4.5 Types of organic reactions with examples (K2, K3)
- 4.6 Inductive effect and resonance (K3)

**Unit V:** (9 hours)

- 5.1 Isomerism - Isomerism in organic compounds. Types of isomerism (K2, K3)
- 5.2 Tautomerism with special reference to lactic acid (K1, K2)
- 5.3 Stereoisomerism-Geometric isomerism with special reference to maleic acid and unsaturated fatty acids (K2, K3)

5.4 Partial double bond character of C-N bonds in amides. Geometrical isomerism in such compounds (K2, K3)

5.5 Optical isomerism, optical activity, enantiomers, diastereomers. Meso and dl forms. R-S and D-L notations in amino acids and sugars (K2, K4)

5.6 Conformational analysis, conformations of ethane and cyclohexane (K3)

**Text Books:**

1. K. Wilson and I. Walke - Practical Biochemistry - Cambridge University press - 5 th edition, 2000

2. David L. Nelson and Michael M- Lehninger's Principle of Biochemistry - Cox. W. H. Freeman - 7 th edition, 2017

**Reference Books:**

1. Victor Rodwell and David Bender- Harper's Illustrated Biochemistry - 31 st edition, 2018

2. E. S. West, W. R. Todd, H.S. Mason and J. T. V. Bruggen - Text book of Biochemistry - Oxford and IBH publishing - 4 th edition, 2017

3. Kensal E. Van Holde - Physical Biochemistry- 2 nd edition, 2006

4. Principle of Instrumental Analysis – Douglas A- 6 th edition, 2017.

5. Robert D. Braun - Introduction to Instrumental Analysis - Pharma Book Syndicate - 1 st edition, 2006

**Open Educational Resources (OER):**

1. <https://youtu.be/CiXDXpw9HyM?list=PLWPIrh4EWFpHTPJZ7ATErCFsKxN0C7St7>

2. [https://youtu.be/AwKqO4Lg8\\_U](https://youtu.be/AwKqO4Lg8_U)

3. <https://youtu.be/5bhQXC6Uklo>

4. [https://youtu.be/JO8w\\_BnX-w4](https://youtu.be/JO8w_BnX-w4)

5. [https://youtu.be/3\\_H3YU5EbeY](https://youtu.be/3_H3YU5EbeY)

## SEMESTER-I & II

### PCBCG20 – MAIN PRACTICAL - I

[ Biomolecules, Cell Dynamics, Human Physiology and Nutrition]

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
I/ I & II	PCBCG20	Main Practical I	Practical	Core	5	4	40+60 = 100

#### Objective:

To help students to expertise in the Biomolecules, Cell Dynamics and biochemical techniques.

#### Course Outcome (CO):

On completion of the course, the students will be able to,

1. Discuss qualitative and quantitative analysis of various biomolecules
2. Explain the isolation of biomolecules from biological samples
3. Apply the practical knowledge to determine hemoglobin, clotting time and prothrombin time

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	M	M	H	M	M	H
CO 2	H	L	M	H	L	L
CO 3	H	M	M	M	H	L
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	M	M	H	M	M	H
CO 2	L	H	H	M	H	L
CO 3	M	M	L	H	M	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

#### Biomolecules

1. Qualitative Analysis of Carbohydrates, Amino acids (Confirmation by paper chromatography) and Fats.
2. Extraction and Quantitative Analysis by UV spectrophotometer
  - a) Protein from egg
  - b) Casein from Milk
  - c) Vitamin C from Lemon

### **Cell dynamics**

1. Fractionation of cell organelles from liver and plant tissues.
  - a) Isolation and estimation of RNA.
  - b) Isolation and estimation of DNA.
2. Preparation of Cytological slides for Mitosis using Root tips.
3. Preparation of Cytological slides for Meiosis-I using Flower buds.
4. Identification of different stages of Mitosis and Meiosis.
5. Isolation of cell organelles.
6. Isolation of Chloroplast.

### **Human Physiology and Nutrition**

1. Analysis of Human Blood pressure.
2. Collection and Preservation of Blood.
3. Enumeration of RBC and WBC and platelet.
4. Blood group typing.
5. Differential WBC count.
6. Determination of hemoglobin content.
7. Determination of clotting time and prothrombin time.
8. Determination of ESR.

### **Reference Books:**

1. Jayaraman J - Manuals in Biochemistry - 4th Ed - New Age International Publishers,2011
2. Varley and Alan H Gowen lock - Practical Biochemistry -6th Ed - CBS Publishers,2002
3. David T Plummer - Practical Biochemistry - 3rd Ed - McGraw Hill Publishers, 2005
4. Sawhney SK and Randhir Singh - Introductory Practical Biochemistry - 2nd Ed- Narosa Publishers,2001
5. Praful B Godkar - Text book of Medical Laboratory Technology- 3rd Ed- Volume I &II, Bhalani Publishing House,2014

## SEMESTER-I & II

### PCBCH20 – MAIN PRACTICAL – II

[Analytical Biochemistry, Enzymology, Intermediary Metabolism]

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
I/ I & II	PCBCH20	Main Practical - II	Practical	Core	5	4	40+60 =100

#### Objective:

To learn about the analytical techniques and enzymology experiments.

#### Course Outcomes (CO)

On completion of the course, the students will be able to,

1. Identify and purify biomolecules in a mixture by chromatographic technique
2. Asses the optimum pH and optimum temperature of enzymes
3. Explain the basic principle involved in intermediary metabolism

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	H	H	H	H	M
CO 2	H	H	H	H	M	M
CO 3	H	H	L	H	L	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	H	H	H	M
CO 2	H	H	H	M	M	M
CO 3	H	H	H	H	L	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

#### Analytical biochemistry:

1. Determination of pKa value using Titration curve.
2. Titration of a weak acid.
3. Preparation of buffers.
4. Verification of Beer-Lambert's law and determination of absorption coefficients.
5. Paper chromatography – Separation of amino acids and carbohydrates in a mixture.
6. Thin layer chromatography – Lipids.

7. Column chromatography -Pigments.
8. Electrophoresis.

### **Enzymology**

1. Subcellular fractionation of organelles from liver cells and identification by marker enzyme – LDH.
2. Isolation of acid phosphatase from potato.
  - a. Determination of optimum pH.
  - b. Determination of optimum temperature.
  - c. Effect of substrate concentration on acid phosphatase activity.
  - d. Inhibition of acid phosphatase activity.
3. Assay of clinically important enzymes.
  - a. Assay of serum/tissue alkaline phosphatase activity.
  - b. Assay of serum acid phosphatase activity.
  - c. Assay of serum creatinine phosphokinase activity.
  - d. Assay serum alanine aminotransferase activity / SGPT.
  - e. Assay of serum aspartate aminotransferase activity / SGOT.
4. Immobilization studies:  
Preparation of urease entrapped in alginate beads and determination of percent entrapment.

### **Intermediary metabolism**

1. Measurement of Oxygen from mitochondria.
2. Quantification of NAD<sup>+</sup>/NADP<sup>+</sup> using UV visible method.

### **Reference Books:**

1. Jayaraman J - Manuals in Biochemistry - 4th Ed - New Age International Publishers,2011
2. Varley and Alan H Gowen lock - Practical Biochemistry -6th Ed - CBS Publishers,2002
3. David T Plummer - Practical Biochemistry - 3rd Ed - McGraw Hill Publishers, 2005
4. Sawhney SK and Randhir Singh - Introductory Practical Biochemistry - 2nd Ed- Narosa Publishers,2001
5. Praful B Godkar - Text book of Medical Laboratory Technology- 3rd Ed- Volume I &II,Bhalani Publishing House,2014

***\*ONE WEEK HANDS ON TRAINING IN ANY DEPARTMENT IN CMC, VELLORE***

**SEMESTER – I****PEBCB20 - ELECTIVE I B: PHARMACEUTICAL BIOCHEMISTRY**

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
I / I	PEBCB20	Pharmaceutical Biochemistry	Theory	Elective I B	3	3	40+60=100

**Objective:**

To make the students aware of uses and abuse of drugs.

**Course Outcome (CO)**

On completion of the course, the students will be able to,

1. Outline the basic scientific concepts related to mechanism of drug action
2. Assess the drug tolerance and the factors that modify the effect of drugs
3. Explain the use of genetically engineered methods on novel drug delivery systems
4. Discuss the mechanism of action of drugs in the therapy of specific diseases
5. Use the medicinal plants in drugs as a curative

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	H	H	H	H	M
CO 2	H	H	H	H	M	M
CO 3	H	H	M	H	M	M
CO 4	H	H	H	L	M	M
CO 5	H	L	H	H	H	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	H	H	H	M
CO 2	H	H	H	M	M	M
CO 3	H	H	H	H	M	M
CO 4	H	H	H	H	L	M
CO 5	H	H	L	H	H	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

**Unit-I:****(9 hours)**

1.1 Drug - Structural feature and pharmacology activity (K1, K2, K4)

- 1.2 Prodrug concept (K1, K3)
- 1.3 Absorption -first –pass effect & distribution (K2, K4)
- 1.4 Metabolism- Phase I, II reactions, action of cytochrome p450 (K1, K2, K4)
- 1.5 Drug receptor- localization, type and subtypes, models and their drug (K2, K3)
- 1.6 Receptor interaction, agonist & antagonist (K2, K3)

**Unit-II:** **(9 hours)**

- 2.1 Adverse response to drugs and drug tolerance (K1, K3)
- 2.2 Idiosyncrasy (pharmacogenesis) and drug allergy - Tachyphylaxis (K2, K3, K4)
- 2.3 Drug abuse and vaccination against infection (K1, K3, K4)
- 2.4 Factor that modifies the effect of drug (K2, K3)
- 2.5 Assay of drug potency- Bioassay and immunoassay (K3, K4)
- 2.6 Plasma therapy (K1, K2, K3)

**Unit-III:** **(9 hours)**

- 3.1 Biotechnology and pharmacy: Genetically engineered protein and peptide agents (K2,K4)
- 3.2 Novel drug delivery systems (K1, K2, K4)
- 3.3 Non conventional routes of administration (K3, K4)
- 3.4 Anti-AIDS drug development (K1, K2, K4)
- 3.5 Oncogenes ras target for drugs (K1, K2)
- 3.6 Multi-drug resistance (K2, K3)

**Unit-IV:** **(9 hours)**

- 4.1 Mechanism of action of drugs used in therapy of: Respiratory system – cough, bronchial – asthma, pulmonary tuberculosis (K1, K2, K3)
- 4.2 GIT – Digestants, appetite suppressants, Hypolipidemic agents, vomiting, constipation and peptic ulcer (K2, K3)
- 4.3 Cardiovascular drugs - Structure and action of cardiac glycosides- Digoxin and Digitoxin (K2, K3)
- 4.4 Antimicrobial drugs – sulfonamides, trimethoprim, cotrimoxazole, penicillin, Aminoglycosides, Cephalosporin and bacterial resistance and macrolides (K1, K2, K3, K4)
- 4.5 Insulin and oral diabetic drugs (K2, K3, K4)
- 4.6 Antifertility and ovulation inducing drugs (K1, K2, K3)

**Unit-V:** **(9 hours)**

- 5.1 Drugs of plant origin: Drug dependence and abuse (K1, K3)
- 5.2 Management of self poisoning cancer (K2, K4)
- 5.3 Chemotherapy - Cytotoxic drug (K1, K2)
- 5.4 Immuno suppressive drug therapy (K3, K4)
- 5.5 New Biological Targets for Drug Development (K1, K3, K4)
- 5.6 Novel Drug Screening Strategies (K2, K3)



**Text Books:**

1. R. S. Satoskar. S. D. Bhandhakar and S.S. Anilapure - Pharmacology and pharmacotherapeutics - Popular Prakashar Bombay - 24<sup>th</sup> edition, 2015.
2. Goodman and Gillman, Mc Graw Hill - The pharmacology Vol I and II - 13<sup>th</sup> edition, 2017

**Reference Books:**

1. William O.F - Principles of Medicinal Chemistry- B.I waverks Pvt Ltd, New Delhi- 4<sup>th</sup> edition, 2016
2. D. G. Burgers- Medicinal Chemistry & Drug Discovery - Oxford textbook of Clinical Pharmacology and Drug therapy - 3<sup>rd</sup> edition, 2008
3. Michael Pakmer and Alice Chan - Biochemical Pharmacology – Wiley Publications – 1<sup>st</sup> edition - 2012
4. Katzung and Bertram - Basic & Clinical Pharmacology - McGraw-Hill Publishers – 14<sup>th</sup> edition - 2018
5. Charles P. Woodbury - Biochemistry for the Pharmaceutical Sciences- 1<sup>st</sup> edition, 2011.

**Open Educational Resources (OER):**

1. <https://youtu.be/oCPRi5JFMdg>
2. <https://youtu.be/GPoDNQhPOMg>
3. <https://youtu.be/SZ7lgFb-KqM>
4. <https://youtu.be/j6J9cBGix-s>
5. [https://youtu.be/k8xat-XzgEA?list=RDQM2AXP\\_m3A14s](https://youtu.be/k8xat-XzgEA?list=RDQM2AXP_m3A14s)
6. <https://youtu.be/7O0V3ocMiAQ>

**SEMESTER II**  
**PCBCD20 - ANALYTICAL BIOCHEMISTRY**

Year/ Sem I / II	Course Code PCBCD20	Title of the Course Analytical Biochemistry	Course Type Theory	Course Category Core	H/W 5	Credits 5	Marks 40 + 60 =100
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**Objectives:**

To understand the principles and applications of analytical techniques. .

**Course Outcome (CO)**

On completion of the course, the students will be able to;

1. Identify the behavior of molecules and prioritize related analytical tools
2. Interpret and use the results from a given chromatographic technique
3. Apply the electrophoretic techniques for the separation of proteins and nucleic acids
4. Pursue knowledge about centrifugation and radioactivity and critically assess advances with in the field
5. Categorize, evaluate and implement a suitable technique for a given analytical problem

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	M	M	M	H	M
CO 2	H	M	M	H	H	M
CO 3	H	L	M	L	H	M
CO 4	H	H	M	H	H	M
CO 5	H	H	M	L	H	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	M	M	M	M	H
CO 2	H	M	H	M	H	L
CO 3	H	L	H	H	L	H
CO 4	H	M	M	M	M	M
CO 5	H	H	M	M	L	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

**Unit-I:**

**(15 Hours)**

- 1.1 Principle - electrochemical cells (K1, K2, K3)
- 1.2 Henderson - Hasselbalch equation - Buffer capacity (K1, K2, K3)

- 1.3 pH measurement- Glass electrode: Principle and application (K1, K2, K3, K4)
- 1.4 Ion-selective electrodes: Principle and application (K1, K2, K3, K4)
- 1.5 Gas sensing electrodes - Oxygen electrode: Principle and application (K1, K2, K3, K4)
- 1.6 Biosensors. (K1, K2, K3)

**Unit-II: (15 Hours)**

- 2.1 Planar and Column chromatography: Principle and application (K1, K2, K3, K4)
- 2.2 Ion – exchange chromatography: Principle and application (K1, K2, K3, K4)
- 2.3 Molecular exclusion chromatography: Principle and application (K1, K2, K3, K4)
- 2.4 Gas – liquid chromatography: Principle and application (K1, K2, K3, K4)
- 2.5 HPLC (Normal phase & Reverse phase): Principle and application (K1, K2, K3, K4)
- 2.6 Chromatofocusing - Immunoaffinity and Capillary electrochromatography. (K1, K2, K3, K4)

**Unit-III: (15 Hours)**

- 3.1 General principles - Support media for Electrophoresis (K1, K2, K3)
- 3.2 Electrophoresis of proteins: SDS – PAGE, 2D – PAGE (Native gels & Gradient gels) (K1, K2, K3, K4, K5)
- 3.3 Isoelectric focusing: Principle and application (K1, K2, K3, K4)
- 3.4 Cellulose acetate electrophoresis: Principle and application (K1, K2, K3, K4)
- 3.5 Detection, estimation and recovery of proteins in gels - Protein blotting (K1, K2, K3, K4)
- 3.6 Electrophoresis of nucleic acids: Agarose gel electrophoresis - DNA sequencing gels - pulsed field gel electrophoresis. (K1, K2, K3, K4)

**Unit-IV: (15 Hours)**

- 4.1 Centrifugation - Basic principles (K1, K2, K3)
- 4.2 Preparative ultracentrifugation: Differential and Density gradient centrifugation. (K1, K2, K3, K4)
- 4.3 Analytical centrifugation: Applications - Determination of molecular mass and purity of macromolecules. (K1, K2, K3, K4)
- 4.4 Radioactivity, Nature of radioactivity: Stable and Radioactive isotopes - Units and interaction of radioactivity with matter. (K1, K2, K3)

4.5 Detection and measurement of radioactivity - GM counter - Solid and Liquid scintillation counter - Autoradiography and Cerenkov counting. (K1, K2, K3, K4, K5)

4.6 Applications of radioisotopes in the Biological sciences. (K1, K2, K3)

**Unit-V:**

**(15 Hours)**

5.1 Laws of Absorption and Absorption spectrum - UV-VIS -IR spectrophotometer: Principle, instrumentation and Applications (K1, K2, K3, K4)

5.2 Luminometry: Principle and applications (K1, K2, K3, K4)

5.3 Flame Emission Spectrophotometer: Principle, instrumentation, operation and applications. (K1, K2, K3, K4)

5.4 Atomic flame and flameless spectrophotometer: Principle and applications (K1, K2, K3, K4)

5.5 NMR, MS, MALDI: Principle, and applications. (K1, K2, K3)

5.6 Use of lasers for spectroscopy. (K1, K2, K3, K4)

**Text Books:**

1. Keith Wilson and John Walker – Principles and Techniques of Practical Biochemistry Cambridge University - 7<sup>th</sup> Edition, 2010
2. Upadhyay - Upadhyay and Nath - Biophysical Chemistry – Principles and Techniques - Himalaya Publishing House, 4<sup>th</sup> Ed, 2022

**Reference Books:**

1. Chatwal Anand – Instrumental methods of Analysis – Himalaya Publishing House, 2011
2. Galen Wood Ewing McGraw - Instrumental methods of Chemical Analysis - Hill College - 5<sup>th</sup> Ed. 2015
3. Robert D. Braun - Introduction to Instrumental Analysis – Pharma Book Syndicate, 2006
4. David Frifelder - Physical Biochemistry - W.H. Freeman 4<sup>th</sup> Ed, 2017
5. Shawney SK and Randhir Singh - Practical Biochemistry - Alpha Science, 2005

**Open Educational Resources (OER):**

1. <https://youtu.be/P1wRXTI2L3I>
2. <https://youtu.be/VOSkyj1dtbc>
3. <https://youtu.be/5obiHqeYEc0>
4. <https://youtu.be/-YT44KP3do>
5. <https://youtu.be/tbUx-RaZS7M>

## SEMESTER II

### PCBCE20 ENZYMOLOGY

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
I / II	PCBCE20	Enzymology	Theory	Core	5	5	40 + 60=100

#### Objectives:

To learn the methodology involved in assessing the enzyme activity and mechanism of enzyme action.

#### Course Outcomes (CO)

On completion of the course, the students will be able to,

1. List the enzyme properties, nomenclature and purification of enzymes
2. Apply the biochemical calculation for enzyme kinetics
3. Compare methods for enzyme catalysis and various methods of inhibition
4. Outline the effect of coenzymes and isoenzymes in enzyme catalysis
5. Explain various industrial and clinical applications of enzymes as a catalyst in industries and also as a therapeutic aid

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	M	H	H	M	H
CO 2	H	H	H	H	H	M
CO 3	H	M	H	H	H	H
CO 4	H	M	H	M	M	H
CO 5	H	M	H	H	M	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	M	M	M	H
CO 2	H	H	H	H	H	H
CO 3	H	H	M	M	M	H
CO 4	H	H	H	M	M	M
CO 5	H	H	H	H	H	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

#### Unit-I:

**(15 hours)**

- 1.1 Nomenclature, classification, isolation and purification of enzymes (K1, K2)
- 1.2 Determination of enzymes by different methods, criteria of purity – specific activity (K2, K3)
- 1.3 Enzyme units - Katal, IU and turnover number (K1, K2)

- 1.4 Measurement of enzyme activity – Coupled kinetic assay, kinetic assay using radio labelled substrates (K1, K2, K4)
- 1.5 Active site - determination of active site amino acids- chemical probe, affinity label, and site-directed mutagenesis, intrinsic and extrinsic regulations (K1, K3)
- 1.6 Investigation of 3-D structure of active site and a brief account of nonprotein enzymes - ribozymes and DNA enzymes (K3, K4)

**Unit-II: (15 hours)**

- 2.1 Kinetics of single substrate enzyme - catalyzed reactions - Michaelis - Menten equation, importance of  $V_{max}$ ,  $K_m$  (K2, K4)
- 2.2 MM equation; Lineweaver - Burk plot, Eadie - Hofstee plot (K1, K2, K4)
- 2.3 Hanes - Woolf plot and Eisenthal and Cornish - Bowden plot (K2, K3)
- 2.4 Pre steady - state kinetics and relaxation kinetics (K1, K2, K4)
- 2.5 Kinetics of Allosteric enzymes - MWC and KNF models Hill equation coefficient (K2, K3)
- 2.6 Kinetics of multi - substrate enzyme - catalyzed reactions - Ping-pong bi-bi, random order and compulsory order mechanism (K1, K2, K3, K4)

**Unit-III: (15 hours)**

- 3.1 Mechanism of enzymic action - general acid-base catalysis, covalent catalysis (K2, K3)
- 3.2 Role of metal ion in enzyme catalysis (K1, K3)
- 3.3 Mechanism of serine proteases - Chymotrypsin, Lysozyme, Carboxy peptidase A and Ribonuclease (K1, K2, K3)
- 3.4 Reversible inhibition - competitive, uncompetitive, noncompetitive, mixed, (K1, K3)
- 3.5 Allosteric inhibition (K1, K2)
- 3.6 Irreversible inhibition – suicide inhibition (K1, K2)

**Unit-IV: (15 hours)**

- 4.1 Coenzymes - prosthetic group, classification - vitamin and nonvitamin coenzymes, thiamine pyrophosphate (K1, K2)
- 4.2 Mechanism of oxidative and nonoxidative decarboxylation, transketolase reaction (K2, K3)
- 4.3 FMN and FAD - flavoprotein enzymes -mechanism of oxidation and reduction of flavin enzymes, NAD and NADP role in enzyme catalysis (K1, K2, K3)
- 4.4 PALP and PAMP - role of PALP in transamination and decarboxylation reaction, Coenzyme A involved reactions (K2, K3)
- 4.5 Biotin - carboxylation reaction, folate coenzymes, coenzyme role of vitamin B<sub>12</sub> and vitamin C, metabolite and non-vitamin coenzymes, lipoic acid, coenzyme Q, nucleoside triphosphate and S-adenosyl methionine (K1, K2, K4)
- 4.6 Isoenzymes -Abzymes (K1, K2, K3)

**Unit-V:****(15 hours)**

- 5.1 Industrial uses of enzymes - sources of industrial enzymes, thermophilic enzymes, amylases, glucose isomerases, cellulose degrading enzymes, lipases, proteolytic enzymes in meat and leather industry, detergents and cheese production (K2, K3, K4)
- 5.2 Clinical enzymology – Enzymes as thrombolytic agents, anti-inflammatory agents, digestive aids (K2, K3)
- 5.3 Therapeutic use of Asparaginases (K1, K2)
- 5.4 Therapeutic use of Streptokinase (K1, K2)
- 5.5 Enzymes and isoenzymes in diagnosis - LD, CK, Transaminases, Phosphatases, Amylase and Cholinesterase (K2, K3)
- 5.6 Immobilization of enzymes and their applications (K1, K2, K4)

**Text Books:**

1. Trevor Palmer – Enzymes: Biochemistry, Biotechnology and Clinical Chemistry- Albion; Reprint edition - 4<sup>th</sup> Reprint Edition, 2004
2. Athel Cornels- Bowden, Fundamentals of Enzymes Kinetics - 4<sup>th</sup> edition, 2012

**Reference Books:**

1. Bowden A C - Fundamentals of Enzyme Kinetics- Medtech Publishers – 3<sup>rd</sup> edition - 2017
2. Enzymes by Boyer - Academic Press - 3<sup>rd</sup> edition, 1983
3. Metzler – Text of Biochemistry - Academic Press, 2000
4. T.D.H Bugg - Introduction to Enzymes & coenzyme chemistry, 3<sup>rd</sup> edition, 2012
5. Stewen - Diagnostic Enzymology, 2<sup>nd</sup> edition, 2014

**Open Educational Resources (OER):**

1. <https://youtu.be/1rfwsCNfLCs>
2. <https://youtu.be/14s1TGGnT28>
3. <https://youtu.be/WfYawcKzyAM>
4. <https://youtu.be/pzdjg3iG4oM>
5. <https://youtu.be/Wrz7AISR8xY>

## SEMESTER II

### PCBCF20 INTERMEDIARY METABOLISM

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
I / II	PCBCF20	Intermediary Metabolism	Theory	Core	5	4	40 + 60=100

#### Objective:

To make the students to understand the reactions catalyzed by different enzymes and their metabolic pathways.

#### Course Outcome (CO)

On completion of the course, the students will be able to;

1. Restate in own words how reduced electron carriers are used to generate ATP via Electron Transport System in Mitochondria
2. Translate the reactions catalyzed by different Enzymes in metabolic pathway
3. Compare the important characteristics of metabolic pathways and assess their regulation
4. Analyze complex chemical reactions and draw logical conclusion by interrelating metabolism
5. Interpret how plants convert energy to nourish themselves

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	H	H	H	H	M
CO 2	H	H	H	H	M	M
CO 3	H	H	L	H	L	M
CO 4	H	H	H	H	M	M
CO 5	H	M	H	H	H	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	H	H	H	M
CO 2	H	H	H	M	M	M
CO 3	H	H	H	H	L	M
CO 4	H	H	H	H	M	M
CO 5	H	H	L	H	H	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

#### Unit-I:

**(15 Hours)**

- 1.1 Free energy and entropy - Enzymes involved in redox reactions (K1, K2, K3)
- 1.2 Electron Transport Chain (K1, K2, K3)
- 1.3 Oxidative Phosphorylation ATPase: Structure and mechanism of action (K1, K2)



- 1.4 Chemiosmotic theory – mechanism (K1, K2)
- 1.5 Inhibitors of respiratory chain and oxidative phosphorylation – Uncouplers (K1, K2, K3, K4)
- 1.6 Mitochondrial transport systems - ATP/ADP exchange - Malate and Glycerophosphate shuttle. (K1, K2)

**Unit-II: (15 Hours)**

- 2.1 Glycolysis - Citric acid cycle: Pathway, Key enzymes and regulations. (K1, K2, K3)
- 2.2 Metabolism of Glycogen: Pathway, Key enzymes and regulations. (K1, K2, K3)
- 2.3 Gluconeogenesis (Cori cycle): Pathway, Key enzymes and regulations. (K1, K2, K3)
- 2.4 Pentose phosphate pathway: Pathway, Key enzymes and regulations. (K1, K2, K3)
- 2.5 Uronic acid pathway: Pathway, Key enzymes and regulations. (K1, K2, K3)
- 2.6 Metabolism of galactose and fructose - Glyoxylate cycle: Pathway, Key enzymes and Regulations. (K1, K2, K3)

**Unit-III: (15 Hours)**

- 3.1 Oxidation of fatty acids - Alpha, Beta and Omega oxidation (K1, K2, K3)
- 3.2 Biosynthesis of fatty acids (K1, K2, K3)
- 3.3 Metabolism of ketone bodies - Biosynthesis of triglycerides (K1, K2, K3)
- 3.4 Metabolism of phospholipids and sphingolipids (K1, K2, K3)
- 3.5 Cholesterol – Biosynthesis and regulation (K1, K2, K3)
- 3.6 Cholesterol – Transport and excretion (K1, K2, K3)

**Unit-IV: (15 Hours)**

- 4.1 Overview of biosynthesis of nonessential amino acids (K1, K2, K3)
- 4.2 Catabolism of amino acid - Transamination, Deamination and ammonia formation (K1, K2, K3)
- 4.3 Urea cycle - Disorders of the urea cycle – Decarboxylation (K1, K2, K3)
- 4.4 Catabolism of carbon skeletons of amino acids: Phenyl alanine, Tyrosine and Histidine (K1, K2, K3)
- 4.5 Catabolism of carbon skeletons of amino acids: Methionine and Cysteine (K1, K2, K3)
- 4.6 Detoxification: Oxidation, Reduction, Hydrolysis and Conjugation (K1, K2, K3)

**Unit-V:****(15 Hours)**

- 5.1 Interrelationship of carbohydrates, proteins and fat metabolism. (K1, K2, K3, K5)
- 5.2 Purine anabolism: De novo and salvage pathways for biosynthesis - Purine catabolism (K1, K2, K3)
- 5.3 Biosynthesis and catabolism of pyrimidines (K1, K2, K3)
- 5.4 Photosynthesis - Photosynthetic apparatus - light reaction - cyclic and noncyclic photophosphorylation (K1, K2, K3)
- 5.5 Dark reaction - Calvin cycle - Hatch-Slack pathway (K1, K2, K3)
- 5.6 Photorespiration - Starch biosynthesis and degradation -Bioluminescence (K1, K2, K3)

**Text Books:**

1. David L. Nelson Michael M. Cox - Lehninger's Principles of Biochemistry - W H Freeman & co - 7<sup>th</sup> Edition, 2017
2. Robert K. Murray, et al. - Harper's Illustrated Biochemistry - McGraw Hill - 31<sup>st</sup> Edition, 2018

**Reference Books:**

1. Lippincott Williams and Wilkins - Davidson and Sittman Biochemistry NMS - 4<sup>th</sup> Edition
2. Donald Voet - Judith G. Voet – Biochemistry - Wiley - 4<sup>th</sup> edition
3. Jeremy M. Berg, John L. Tymoczko and Lubert Stryer – Biochemistry - W H Freeman - 7<sup>th</sup> edition, 2011
4. Christopher K. Mathews, K.E Van Holde, Kevin G. Ahern – Biochemistry –Pearson Education - 3<sup>rd</sup> Edition, 2000
5. U. Satyanarayana – Biochemistry - Elsevier - 5<sup>th</sup> Edition, 2019

**Open Educational Resources (OER):**

1. <https://youtu.be/nCr3iCzX4lc>
2. <https://youtu.be/ydhr0QAYxYg>
3. [https://youtu.be/Dc3\\_LLXsguw](https://youtu.be/Dc3_LLXsguw)
4. <https://youtu.be/fJScSmrR1MI>
5. <https://youtu.be/v-G-d27C1TU>

**SEMESTER: II****PEBCC20 – ELECTIVE II A: ECOLOGY, EVOLUTION AND DEVELOPMENTAL BIOLOGY**

<b>Year/ Sem</b>	<b>Course Code</b>	<b>Title of the Course</b> Ecology, Evolution and Developmental Biology	<b>Course Type</b> Theory	<b>Course Category</b> Elective II A	<b>H/W</b> 3	<b>Credits</b> 3	<b>Marks</b> 40+60=100
I /II	PEBCC20						

**Objective:**

The course enables the students to understand and analyze the role of ecological and evolutionary modifications in the development of organisms and their survival.

**Course Outcome (CO)**

On completion of the course, the students will be able to,

1. Outline the concept of ecosystem and its interaction
2. Apply the concept of evolution in population genetics
3. Describe the structures and the development of the embryo at different stages
4. Explain the insight on morphogenesis and organogenesis in plants
5. Schematize pedigree analysis and genetic mapping

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	M	M	M	H	H
CO 2	L	H	H	H	M	M
CO 3	M	H	L	M	H	H
CO 4	L	M	M	L	M	L
CO 5	H	H	L	M	H	L
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	M	H	M	H	H
CO 2	L	H	M	H	M	M
CO 3	H	M	H	L	H	M
CO 4	M	L	M	M	M	H
CO 5	M	H	L	H	L	L
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

**Unit I:****(9 hours)**

1.1 Physical environment, biotic environment, biotic and abiotic interaction (K1, K2, K3, K4)

1.2 Concept of habitat and niche, niche width and overlap, fundamental and realized niche (K1, K2, K3, K4, K5, K6)

1.3 Characteristic of a population, population growth curves, population regulation (K1, K2, K3, K4, K5, K6)

1.4 Nature of communities, community structure and attributes, level of species diversity and its measurement. (K1, K2, K3, K4, K5, K6)

1.5 Types and mechanism of succession, concept of climax. (K1, K2, K3, K4)

1.6 Types of interaction, interspecific competition, herbivory, carnivory, pollination, symbiosis. (K1, K2, K3, K4)

**Unit II: (9 hours)**

2.1 Lamarck; Darwin concept of variation, adaptation, natural selection. (K1, K2, K3)

2.2 Origin of basic biomolecule; Abiotic synthesis of organic monomers and polymers (K1, K2, K3)

2.3 Concept of neutral evolution, molecular divergence and molecular clock (K1, K2, K3, K4)

2.4 Population genetics -Populations, gene pool, gene frequency, Hardy-Weinberg Law (K1, K2, K3, K4, K5, K6)

2.5 Adaptive radiation, Isolating mechanisms, Speciation, Allopatricity and Sympatricity (K1, K2, K3, K4, K5, K6)

2.6 Convergent evolution, Sexual selection, Co-evolution (K1, K2, K3, K4)

**Unit III: (9 hours)**

3.1 Production of gametes (K1, K2, K3)

3.2 Cell surface molecules in sperm-egg recognition in animals (K1, K2, K3, K4, K5, K6)

3.3 Embryo sac development (K1, K2, K3, K4)

3.4 Double fertilization in plants (K1, K2, K3, K4)

3.5 Mammalian cleavage, gastrulation (K1, K2, K3, K4)

3.6 Programmed cell death (K1, K2, K3, K4, K5, K6)

**Unit IV: (9 hours)**

4.1 Organization of shoot and root apical meristem (K1, K2, K3, K4)

4.2 Shoot and root development (K1, K2, K3, K4, K5, K6)

4.3 Leaf development and phyllotaxy (K1, K2, K3, K4, K5, K6)

4.4 Transition to flowering, floral meristems (K2, K3)

4.5 Floral development in Arabidopsis (K3, K4)

4.6 Antirrhinum (K1, K2, K3, K4)

**Unit V: (9 hours)**

5.1 Linkage maps, mapping with molecular markers (K1, K2, K3, K4, K5, K6)

5.2 Mapping by using somatic cell hybrids, development of mapping population in plants. (K1, K2, K3, K4, K5, K6)

5.3 Pedigree analysis (K1, K2, K3)

5.4 LOD score for linkage testing (K1, K2, K3)

5.5 Karyotypes. Polygenic inheritance, heritability and its measurements (K1, K2, K3, K4)

5.6 QTL mapping (K1, K2, K3)

**Textbooks:**

1. David C- Advanced Molecular Biology, Delve Publishing LLC, 2015.

2. William H. Elliot & Daphne C. Elliott - Biochemistry and Molecular biology, Oxford University Press, 2018.

**Reference Books:**

1. Gilbert S.F - Developmental Biology-Sinacer Associates Inc, Massachusetts–11<sup>th</sup> edition, 2016

2. Balinsky B.I - An Introduction to Embryology - W.B. Saunders Publishing Company - 5<sup>th</sup> edition, 2014.

3. Ridley Mark- Evolution-John Wiley and Sons Ltd, 2007.

4. Charles J.Krebs. Ecology-Pearson Publication, 6<sup>th</sup> edition, 2016.

5. Hugh Fletcher- Instant notes in genetics - Verlag publishers, 2012.

**Open Educational Resources (OER):**

1. <https://youtu.be/ZeATszO-6e0>

2. <https://youtu.be/7ww5T7hCdn4>

3. [https://youtu.be/\\_fN1H2VnHUs](https://youtu.be/_fN1H2VnHUs)

4. <https://youtu.be/5e9RcEGbvm4>

5. <https://youtu.be/f2dvh0YNDwM>

## SEMESTER II

### PEBCD20 - ELECTIVE II B: TOXICOLOGY

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
I / II	PEBCD20	Toxicology	Theory	Elective II B	3	3	40+60=100

#### Objective:

The course gives a detailed understanding and identification of toxic substances, dose-response, tests conducted and its impact on cellular activities.

#### Course Outcomes (CO)

On completion of the course, the students will be able to,

1. Outline the scope and factors influencing toxicology
2. Explain the clinical and laboratory findings in the treatment of acute toxic exposures
3. Assess various methods of toxicity testing
4. Discuss the effects of toxic substances on molecular and cellular levels
5. Use the knowledge of air pollutants in the assessment of occupational hazards

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	M	M	M	H	H
CO 2	L	H	H	H	M	M
CO 3	M	H	L	M	H	H
CO 4	L	M	M	L	M	L
CO 5	H	H	L	M	H	L
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	M	H	M	H	H
CO 2	L	H	M	H	M	M
CO 3	H	M	H	L	H	M
CO 4	M	L	M	M	M	H
CO 5	M	H	L	H	L	L
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

#### Unit-I:

(9 hours)

- 1.1 Eco-toxicology and its environment significance toxic effects (K1, K2, K3, K4)
- 1.2 Basis for general classification & nature, dose - response relationship (K1, K2, K3)
- 1.3 Synergism and Antagonism (K1, K2)

- 1.4 Determination of ED<sub>50</sub> & LD<sub>50</sub> (K1, K2, K3, K4, K5 K6)
- 1.5 Acute and chronic exposures (K1, K2, K3, K4, K5 K6)
- 1.6 Factors influencing toxicity. Pharmacodynamics & Chemo dynamics (K1, K2, K3, K4)

**Unit-II: (9 hours)**

- 2.1 Regulators guidelines, mammalian systems affected & the clinical signs of systemic toxicity (K1, K2, K3, K4)
- 2.2 Factors affecting acute toxicity studies (K1, K2, K3, K4)
- 2.3 Biochemical basis of toxicity, Mechanism of toxicity: disturbance of excitable membrane function altered calcium homeostasis. (K1, K2, K3, K4, K5, K6)
- 2.4 Covalent binding to cellular macromolecules (K1, K2, K3)
- 2.5 Genotoxicity (K1, K2)
- 2.6 Tissue specific toxicity (K2, K3)

**Unit-III: (9 hours)**

- 3.1 Test Protocol, Genetic Toxicity Testing & Mutagenesis Assays: In vivo test systems (K1, K2, K3)
- 3.2 Bacterial Mutation Tests: Reversion Tests, Ames test, Fluctuation Tests & Eukaryote Mutation Tests (K1, K2, K4)
- 3.3 In Vivo Mammalian Mutation Tests – host mediated assay & dominant lethal test (K2, K3, K4, K5, K6)
- 3.4 Use of drosophila in toxicity testing (K3, K4, K5, K6)
- 3.5 DNA repair assays. Chromosome damage test (K3, K4, K5, K6)
- 3.6 Toxicological Evaluation of Recombinant DNA –Derived Proteins (K2, K3, K4)

**Unit-IV: (9 hours)**

- 4.1 Toxicology of food additives (K1, K2, K3)
- 4.2 Metal toxicity: Toxicology of Arsenic, Mercury, Lead and Cadmium (K2, K3)
- 4.3 Environmental Factors Affecting Metal Toxicity- Effect of Light, Temperature & P<sup>H</sup> (K1, K2)
- 4.4 Diagnosis of toxic changes in liver and kidneys (K3, K4, K5, K6)
- 4.5 Metabolism of Haloalkanes (K2, K3)
- 4.6 Haloalkenes & Paracetamol with their toxic effects on tissues (K2, K3, K4, K5, K6)

**Unit-V:****(9 hours)**

- 5.1 Air pollution & ozone (K2, K3, K4)
- 5.2 Air pollution due to chlorofluorocarbons (CFCS) and asbestos (K1, K2, K3, K4)
- 5.3 Occupational toxicology and assessment of occupational hazards: industrial effluent toxicology & environmental health (K2, K3, K4, K5, K6)
- 5.4 An overview of regulatory agencies: responsibilities of regulatory agencies (K3, K4, K5)
- 5.5 Management of toxicological risks (K3, K4, K5, K6)
- 5.6 Regulatory approaches. Regulatory systems and organizations (K3, K4, K5, K6)

**Text Books:**

1. G. Tyler Miller and Scott E. Spoolman - Environmental Science - Cengage learning - 15<sup>th</sup> edition, 2016
2. George Tyler Miller, Jr. and Scott Spoolman - Living in the Environment – Principles, Connections and Solutions, Brooks/Cole, USA - 17<sup>th</sup> edition, 2012.

**Reference Books:**

1. Casarett and Doull's – Toxicology - Mc Graw Hill Education – 9<sup>th</sup> edition, 2013
2. Raymond D and Marie M - Industrial Toxicology - Wiley Publications – 6<sup>th</sup> Ed, 2015
3. Hayes A W-Principles and methods of Toxicology- CRC press New York, 6<sup>th</sup> Ed, 2014
4. Stepham M and Robert C –Principles of Toxicology - Wiley-Interscience – 3<sup>rd</sup> Ed, 2015
5. Anil Agarwal - Textbook of Forensic Medicine and Toxicology - Avichal Publishing Company - 1<sup>st</sup> edition, 2017

**Open Educational Resources (OER):**

1. <https://youtu.be/eIZr7M-kt2s>
2. <https://youtu.be/YnsN1LozIEc>
3. <https://youtu.be/v4jmPpTcdxQ>
4. [https://youtu.be/dBcS\\_-WrTIE](https://youtu.be/dBcS_-WrTIE)
5. <https://youtu.be/hYgma4mYM0w>



## SEMESTER – III

### PCBCI20 - ADVANCED ENDOCRINOLOGY

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
II / III	PCBCI20	Advanced Endocrinology	Theory	Core	6	5	40+60=100

#### Objective:

The course describes in detail about the role of endocrine glands, their secretion, its metabolic effect on target cells involving various signaling pathways and signal chain proteins.

#### Course Outcome (CO)

On completion of the course, the students will be able to

1. Identify the structure and functions of endocrine glands and hormones
2. Demonstrate the mechanisms of hormonal action and the clinical disorders of hormones
3. Examine the symptoms of the patients and relate it to hormones
4. Identify the difference in the mechanism of cell to cell communication
5. Explain the differences between male and female gonads

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	M	H	H	M	H
CO 2	M	H	M	M	H	L
CO 3	M	L	M	L	M	M
CO 4	H	M	H	M	H	L
CO 5	M	L	M	H	L	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	M	H	H	M	M
CO 2	L	L	H	M	H	L
CO 3	M	H	M	L	H	M
CO 4	H	M	H	M	L	H
CO 5	M	H	L	H	M	L
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

#### Unit I:

**(18 Hours)**

- 1.1 Glands - Types of glands- Hormones, Effector cell, target cell - Definition, Hormone target relationship - General features and functions of Endocrine system (K2, K3, K4)
- 1.2 Classification - based on Solubility, types of receptors, mechanism of action (K1, K2, K3, K4)

- 1.3 Steroid hormones - Salient features, Biosynthesis, Secretion, Storage, Transport, Mechanism of action (K3, K4, K5, K6)
- 1.4 Protein hormones - Salient features, Biosynthesis, Secretion, Storage, Transport, Mechanism of action – Amino acid derived hormones (K3, K4, K5, K6)
- 1.5 Receptors – Structure: Extracellular and Intracellular, Types: Intrinsic and Extrinsic, Domains: Extracellular domains, Transmembrane domains and Intracellular domains - Regulation of receptor number (K2, K3, K4, K5, K6)
- 1.6 Feedback mechanisms (K1, K2, K3, K4)

**Unit II: (18 Hours)**

- 2.1 Signal transduction - Definitions of signals, ligands and receptors, endocrine, paracrine and autocrine signaling (K1, K2, K3)
- 2.2 Receptors and signaling pathways – cell surface receptors, ion channels (K2, K3, K4)
- 2.3 G-protein coupled receptors, receptor kinases (tyr, ser/thr) (K1, K2, K3, K4)
- 2.4 Signal transduction through cytoplasmic and nuclear receptors (K3, K4, K5, K6)
- 2.5 The Ras-raf MAP kinase cascade, second messengers – cyclic nucleotides, lipids and calcium ions (K2, K3, K4, K5, K6)
- 2.6 Crosstalk in signaling pathways (K2, K3, K4, K5, K6)

**Unit-III: (18 Hours)**

- 3.1 Hypothalamus -Structure (K1, K2, K3)
- 3.2 Hypothalamic releasing factors (K1, K2, K3, K4)
- 3.3 Anterior pituitary gland: Biosynthesis, Secretion, Storage, Transport, Mechanism of action and Biological functions (K3, K4, K5, K6)
- 3.4 Posterior pituitary gland: Biosynthesis, Secretion, Storage, Transport, Mechanism of action and Biological functions - Hypothalamus and Pituitary Gland disorders -Etiology and Clinical features (K3, K4, K5, K6)
- 3.5 T<sub>3</sub> and T<sub>4</sub> - Biosynthesis, Secretion, Storage, Transport, Mechanism of action, Biological functions and disorders (K1, K2, K3, K4, K5, K6)
- 3.6 Calcitonin - Biosynthesis, Secretion, Storage, Transport, Mechanism of action, Biological functions and disorders (K3, K4, K5, K6)

**Unit-IV: (18 Hours)**

- 4.1 Parathyroid hormones - Biosynthesis, Secretion, Storage, Transport, Mechanism of action and Biological functions and disorders (K3, K4, K5, K6)
- 4.2 Pancreas: Structure - Hormone secreted by Pancreas (K1, K2, K3, K4)
- 4.3 Pancreatic Hormones Biosynthesis, Secretion, Storage, Transport, Mechanism of action (K2, K3, K5, K6)
- 4.4 Pancreatic Hormones - Biological functions (K1, K2, K3, K4)
- 4.5 Pancreatic Hormones Disorder – Etiology and Clinical features (K1, K2, K3, K4)
- 4.6 Gastro Intestinal hormones (K1, K2, K3, K4)

**Unit-V:****(18 Hours)**

- 5.1 Adrenal Glands: Anatomy (K2, K3, K4)
- 5.2 Adrenal hormones - Biosynthesis, Secretion, Storage, Transport, Mechanism of action and Biological actions of Adrenal Hormones (K3, K4, K5, K6)
- 5.3 Adrenal disorder – Etiology and Clinical features (K1, K2, K3, K4)
- 5.4 Male Gonadal Hormones: Biosynthesis, Secretion, Storage, Transport, Mechanism of action - Biological actions (K3, K4, K5, K6)
- 5.5 Female Gonadal Hormones: Biosynthesis, Secretion, Storage, Transport, Mechanism of action - Biological actions (K3, K4, K5, K6)
- 5.6 Neurohormones (K1, K2, K3, K4)

**Text Books:**

1. Prakash S Lohar- Endocrinology- Hormones and Human Health- MJP Publishers,2005
2. White, Handler Smith - Mammalian Biochemistry-McGraw Hill-7<sup>th</sup> Edition,2008

**Reference Books:**

1. Charles G.D. Brook and Nicholas J.Marshall- Essential Endocrinology-New Age International Publishers- 4<sup>th</sup> Edition,2006
2. Franklyn F. Bolander- Molecular Endocrinology-Academic Press-Elsevier Publication-3<sup>rd</sup> Edition,2006
3. Maurice Goodman H- Basic Medical Endocrinology- Elsevier Publication-3<sup>rd</sup> Edition,2006
4. Devlin, Wiley-Liss- Textbook of Biochemistry with clinical correlation -6<sup>th</sup> Edition,2005
5. Wilson and Foster-Textbook of Endocrinology -W.B. Saunders Publishers-2<sup>nd</sup> Edition,2016
6. Antonino Belfiore and Derek LeRoith- Principles of Endocrinology and Hormone action. Springer publications- 2018.

**Open Educational Resources (OER):**

1. <https://www.youtube.com/watch?v=-1pmbfYYEE>
2. <https://www.youtube.com/watch?v=PzA5Z3DXfrQ>
3. <https://www.youtube.com/watch?v=uCjpGlnCjeA>
4. <https://www.youtube.com/watch?v=aHhoUyU0ysQ>
5. <https://www.youtube.com/watch?v=431tLBZ7d1o>

**SEMESTER – III**

**PCBCJ20 - ADVANCED IMMUNOLOGY**

Year/Sem	Course Code	Title Of The Course	Course Type	Course Category	H/W	Credits	Marks
II / III	PCBCJ20	Advanced Immunology	Theory	Core	6	5	40+60=100

**Objectives:**

To help the students to understand the components of immune system and it's functioning.

**Course Outcomes (CO)**

On completion of the course, the students will be able to;

1. Identify various mechanisms that regulate immune response
2. Compare and contrast innate and adaptive immunity
3. Outline the cell types and organ present in the immune response
4. Discuss the reason for different vaccination
5. Communicate the adverse effect of immunodeficiency disorder

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	M	H	H	M	M
CO 2	H	H	H	M	H	M
CO 3	M	H	M	H	H	M
CO 4	H	M	H	M	H	M
CO 5	H	H	H	H	M	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	M	M	L	H
CO 2	H	M	H	H	H	M
CO 3	H	H	M	M	L	M
CO 4	H	M	M	M	L	M
CO 5	H	H	M	M	L	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

**Unit I:**

**(18 Hours)**

- 1.1 Lymphoid system-Definition, Central lymphoid organs-Thymus, Bone marrow (K1, K2, K3, K4, K5, K6)
- 1.2 Peripheral lymphoid organs-Lymph node, Spleen & MALT ( K1, K2, K3, K4, K5, K6)

- 1.3 Cells involved in immune system-Lymphocytes, Mononuclear phagocytes, Granulocytes, Mast cells, NK cells (K1, K2, K3, K4, K5, K6)
- 1.4 Antigen, Haptens, adjuvants, antigenicity, Epitopes (K1, K2, K3, K4, K5, K6)
- 1.5 Immunoglobulins - basic structure, classification & functions, allotypes and idiotypes. Theories of antibody formation- side chain (K1, K2, K3, K4, K5, K6)
- 1.6 Clonal selection theory (K1, K2, K3, K4, K5, K6)

**Unit II: (18 Hours)**

- 2.1 Immunity: Types of immunity - innate and acquired immunity (K1, K2, K3, K4, K5, K6)
- 2.2 Antitoxic, antibacterial and antiviral immunity (K1, K2, K3, K4, K5, K6)
- 2.3 Humoral and cell mediated immunity (K1, K2, K3, K4, K5, K6)
- 2.4 Antigen recognition - T cell and B cell receptor complexes, antigen processing and presentation (K1, K2, K3, K4, K5, K6)
- 2.5 Interaction of T and B cells, cytokines. Immunological memory (K1, K2, K3, K4, K5, K6)
- 2.6 Cytotoxicity - immunotolerance, immunosuppression (K1, K2, K3, K4, K5, K6)

**Unit III: (18 Hours)**

- 3.1 Complement system -Nomenclature, activation of complement –classical & alternative pathway (K1, K2, K3, K4, K5, K6)
- 3.2 Complement fixation test (K1, K2, K3, K4, K5, K6)
- 3.3 Immunological techniques- Immunoprecipitation, RIA, ELISA (K1, K2, K3, K4, K5, K6)
- 3.4 Avidin-biotin mediated assay (K1, K2, K3, K4, K5, K6)
- 3.5 Immunohistochemistry and immuno electrophoresis (K1, K2, K3, K4, K5, K6)
- 3.6 Immunoblotting (K1, K2, K3, K4, K5, K6)

**Unit IV: (18 Hours)**

- 4.1 Vaccines - killed, attenuated organisms, toxoids, recombinant vector vaccines (K1, K2, K3, K4, K5, K6)
- 4.2 Subunit vaccines, anti-idiotypic vaccines (K1, K2, K3, K4, K5, K6)
- 4.3 MHC complex – MHC genes - HLA genes, class I and II antigens-Structure and function (K1, K2, K3, K4, K5, K6)
- 4.4 Histocompatibility testing -cross matching (K1, K2, K3, K4, K5, K6)
- 4.5 Transplantation – types (K1, K2, K3, K4, K5, K6)
- 4.6 Genetics of transplantation - graft versus host reactions (K1, K2, K3, K4, K5, K6)

**Unit V: (18 Hours)**

- 5.1 Hypersensitivity - Definition, classification and factors influencing hypersensitivity (K1, K2, K3, K4, K5, K6)
- 5.2 Type I-hypersensitivity-mechanism (K1, K2, K3, K4, K5, K6)

- 5.3 Type II, III, IV and V hypersensitivity-mechanism, diagnosis and treatment (K1, K2, K3, K4, K5, K6)
- 5.4 Immunodeficiency disorders - B cell deficiencies (K1, K2, K3, K4, K5, K6)
- 5.5 Immunodeficiency disorders - T cell deficiencies (K1, K2, K3, K4, K5, K6)
- 5.6 AIDS, COVID -pathogenesis, diagnosis & Treatment (K1, K2, K3, K4, K5, K6)

**Text Books:**

1. Dulsi Fathima & Arumugam-Immunology- Saras Publications- 4<sup>th</sup> Edition, 2014
2. Ivo Roitt- Essential Immunology -Blackwell Publishing-13<sup>th</sup> Edition, 2017

**Reference Books:**

1. Abul K. Abbas, Andrew Lichtman-Cellular and Molecular Immunology-Saunders Publishers -9<sup>th</sup> Edition, 2017
2. Kuby J. – Immunology-W H Freeman Company, New York- 7<sup>th</sup> Edition-2013.
3. Tizard L R –Immunology-Saunders Publishers-13<sup>th</sup> Edition, 2017
4. Frank C. Hay, Olwyn M. R. Westwood, Paul N. Nelson, and Leslie Hudson-Practical Immunology -Blackwell Publishing, Incorporated- 4<sup>th</sup> Edition, 2008
5. D. M. Weir- Immunological Techniques -13<sup>th</sup> Edition, 2002

**Open Educational Resources (OER):**

1. <https://www.youtube.com/watch?v=O-r7FFkiItk>
2. <https://www.youtube.com/watch?v=sYjtMP67vyk>
3. <https://www.youtube.com/watch?v=YJ0-qQslqqQ>
4. <https://www.youtube.com/watch?v=mH8IoSuh64o>
5. <https://www.youtube.com/watch?v=uW96-mBFGag>

## SEMESTER – III

### PCBCK20 - ADVANCED BIOTECHNOLOGY

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
II / III	PCBCK20	Advanced Biotechnology	Theory	Core	5	4	40+60=100

#### Objective:

To learn how to apply the knowledge of genetic engineering in problem solving and in practice.

#### Course Outcome (CO)

On completion of the course, the students will be able to;

1. Illustrate the tools and strategies used in genetic engineering
2. Apply the knowledge of genetic engineering in problem solving and in practice
3. Categorize how plant and animal cells are cultured and genetically manipulated in laboratory
4. Make use of the various steps in the development of a biotechnology derived products
5. Report the applications of genetic engineering technique in basic and applied experimental biology

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	H	H	H	H	M
CO 2	H	H	H	H	M	M
CO 3	H	H	M	L	M	L
CO 4	H	H	H	H	M	M
CO 5	H	M	H	H	H	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	H	H	H	M
CO 2	H	H	H	H	M	M
CO 3	H	H	H	H	M	M
CO 4	H	H	H	L	M	L
CO 5	H	H	M	H	H	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

#### Unit I:

**(15 Hours)**

- 1.1 Basic principles – Steps involved - Enzymes used in genetic engineering (K1, K2, K3)
- 1.2 Restriction enzymes: Types and target sites (K1, K2, K3)
- 1.3 Cutting and joining of DNA molecules - linkers and adaptors - Homopolymers

(K1, K2, K3)

1.4 Cloning vehicles and their properties: Natural and Based plasmids (pBR322)

(K1, K2, K3)

1.5 Cosmid vectors (K1, K2, K3, K5)

1.6 Shuttle vectors. (K1, K2, K3, K5)

**Unit II:**

**(15 Hours)**

2.1 DNA library: cDNA and Genomic libraries (K1, K2, K3, K5)

2.2 Recombinant selection and screening methods - Expression of cloned genes - Problems and solutions (K1, K2, K3)

2.3 DNA sequencing strategies - Sanger's and Maxam - Gilbert's methods (K1, K2, K3, K4)

2.4 Applications of PCR and DNA hybridization (K1, K2, K3, K5)

2.5 Southern and Northern blotting (K1, K2, K3, K4, K5)

2.6 Western blotting. (K1, K2, K3, K4, K5)

**Unit III:**

**(15 Hours)**

3.1 Culturing explants and haploids - Protoplasts fusion and Embryoids (K1, K2, K3, K4, K5, K6)

3.2 Methods of gene transfer to plants, animals and bacteria- Transfection, Electroporation, shotgun and others (K1, K2, K3, K4)

3.3 Transgenic plants, GM foods and biopesticides, gene knockouts (K1, K2, K3, K4)

3.4 Transgenic animals, animal pharming and xenografting (K1, K2, K3, K4, K5)

3.5 Biodegradation, stimulation and its applications (K1, K2, K3, K4, K5)

3.6 Bioleaching. (K1, K2, K3)

**Unit IV:**

**(15 Hours)**

4.1 Industrial biotechnology – fermentors (K1, K2, K3)

4.2 Ethanol and Citric acid production: Principle, types, product recovery and purification (K1, K2, K3, K4)

4.3 Vitamin B<sub>12</sub> and Streptomycin production: Principle, types, product recovery and purification (K1, K2, K3, K4)

4.4 Enzyme biotechnology-production and uses of industrially important enzymes such as protease (K1, K2, K3, K4)

4.5 Immobilization of enzymes and their applications (K1, K2, K3, K4)

4.6 Waste treatment, bioenergy and biogas production. (K1, K2, K3, K4)

**Unit V:**

**(15 Hours)**

5.1 Gene therapy (somatic): Principle and approaches. (K1, K2, K3, K4)

5.2 Potential hazards - Biological weapons - Biosafety of GM foods and GMOs - substantial



- equivalence and safety testing - Gene drain - Tangled genes (K1, K2, K3)
- 5.3 Human genome research – the objectives and approaches, genomics and genome prospecting - the controversies (K1, K2, K3, K4)
- 5.4 Issues of biotechnology-social and scientific – technology protecting systems and the terminator (K1, K2, K3, K4)
- 5.5 IPR: concepts and conditions (K1, K2, K3)
- 5.6 Patenting of genes, cells and life forms - evaluation of life patenting. (K1, K2, K3, K5, K6)

**Text Books:**

1. William J. Thieman, Michael A. Palladino - Introduction to Biotechnology –Pearson New international Edition, 2013
2. Bourgaise Jewell, Buiser– Biotechnology - Pearson Education – 2<sup>nd</sup> Edition, 2004

**Reference Books:**

1. R.C. Dubey - A Text book of Biotechnology - S. Chand Publishing - 5<sup>th</sup> edition
2. Lewin B - Genes – VIII - Pearson - 2004
3. Glick & Pasternak - Molecular Biotechnology - 4<sup>th</sup> Edition, 2010
4. T.A. Brown-Gene Cloning & DNA Analysis–an introduction-6<sup>th</sup> Edition Wiley-Blackwell
5. U. Satyanarayana - Biotechnology – 12<sup>th</sup> Edition, 2019

**Open Educational Resources (OER):**

1. [https://www.youtube.com/watch?v=1lqQn3\\_PvMs](https://www.youtube.com/watch?v=1lqQn3_PvMs)
2. [https://youtu.be/Ll\\_7z4YS2Ak](https://youtu.be/Ll_7z4YS2Ak)
3. <https://youtu.be/aSb5PNwrRx0>
4. <https://www.slideshare.net/mobile/DineshS50/citric-acid-production-74641179>
5. <https://youtu.be/-hryHoTIHak>

## SEMESTER-III & IV

### PCBCN20 – MAIN PRACTICAL – III

[Endocrinology, Immunotechniques, Biotechnology]

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
II/ III & IV	PCBCN20	Main Practical - III	Practical	Core	5	4	40+60 =100

#### Objective:

The course is aimed to enable the student interpret hormonal imbalance and clinical conditions and also to provide in-depth practical knowledge and skill in performing immune-techniques and cell culture techniques.

#### Course Outcome (CO)

On completion of the course, the students will be able to,

1. Analyse the prevalence and impact of endocrine hormone in regulating health
2. Use the practical skill for diagnosing immunological reaction in relation to disease condition
3. Apply tissue culture technique and fermentation process for various applications

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	H	M	L	M	H
CO 2	L	H	H	H	H	L
CO 3	H	H	L	H	M	L
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	1	2	3	4	5	6
CO 2	H	H	M	H	M	M
CO 3	H	L	H	L	H	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

#### Endocrinology

Case Studies (Identification of diseases based on patient history)

#### Immunotechniques:

1. Blood film preparation and identification of cells.
2. Demonstration of immuno reaction

- Blood group
  - Widal test
  - Pregnancy test
  - Coombs test
  - ELISA
  - Antigen antibody reaction
  - Ouchterlony double diffusion, Immunoelectrophoretic, Immunoblotting, Immunostaining, Immunofluorescent
3. Antibody sensitivity test
  4. Measurement of antibodies - Serial dilution
  5. Determination MIC

### **Biotechnology**

1. Preparation of Culture media & Reagents - Media composition, Nutrition, Hormones. Tissue Culture – Callus culture, Cell suspension.
2. Organ Micro-culture - Shoot tip, excised root, Leaf culture Plant micro-propagation – micro-culture of plants.
3. Basic sterilization techniques required for Media preparation & Cytological techniques Preparation of Slides.
4. Staining of Slides.
5. Image analysis & Karyotyping.
6. Preparation of alcohol using fermentation process.

### **Reference Books:**

1. Shirlyn B McKenzie- Clinical Laboratory Haematology- Pearson Publication, 2009
2. Hrudayanath Thatol, Supriya Dash, Swagat Kumar Das- Practical Biotechnology: Principles and Protocols- I K International Publishing House Pvt, 2017.
3. Robert H Smith. Plant tissue Culture- Techniques and Experiments- Academic Press, 3<sup>rd</sup> Edition, 2012.
4. Ivan Roitt, Jonathan Brostoff, David Male, David Roth- Immunology-Mosby Publication. 7<sup>th</sup> Edition, 2006
5. Charles GD Brook and Nicholas J Marshall- Essential Endocrinology - New Age International Publishers, 4th Edition, 2006

***\*ONE WEEK HANDS ON TRAINING IN ANY INDUSTRY***

## SEMESTER-III & IV

### PCBCO20 - MAIN PRACTICAL IV

[Molecular Biology, Clinical Biochemistry]

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credit	Marks 100
II/ III & IV	PCBCO20	Main Practical - IV	Practical	Core	5	4	40+60 = 100

#### Objective:

To help students to expertise in the molecular biology and clinical biochemistry techniques.

#### Course Outcome (CO):

1. Apply the molecular tools and techniques for extracting and separating DNA
2. Utilize practical knowledge and skill for diagnosing various diseases using biochemical analysis in blood specimen
3. Demonstrate various pathological conditions related to abnormal constituents in urine

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	H	H	H	H	H
CO 2	H	H	H	H	M	H
CO 3	H	H	H	H	H	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	M	M	L	H
CO 2	H	M	H	H	H	M
CO 3	H	H	M	M	L	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

#### Molecular Biology

1. Southern and Western blotting.
2. Restriction digestion of DNA.
3. Separation of RE –digested fragments by Gel Electrophoresis.
4. Isolation of plasmid.
5. Restriction Mapping of a Plasmid.
6. Polymerase Chain Reaction.
7. Extraction of genomic DNA and electrophoresis in agarose gel.
8. Determination of molecular size of DNA.

## **Clinical Biochemistry**

### **A. Biochemical Analysis Of Blood**

1. Estimation of blood Glucose by O-toluidine method.
2. Estimation of serum Proteins by Bradford's Method.
3. Estimation of A.G. ratio in serum.
4. Estimation of blood Urea by DAM method.
5. Estimation of serum Uric acid by Phosphotungstate method.
6. Estimation of serum Creatinine by alkaline picrate method.
7. Estimation of serum Creatine.
8. Estimation of serum Triglycerides.
9. Estimation of serum Cholesterol by Zak and Boyle method.
10. Estimation of serum Phospholipids.
11. Estimation of serum Bilirubin by Jendrassik and Crof method.
12. Estimation of LDL and HDL.

### **B. Urine Analysis**

1. Qualitative analysis of normal and pathological constituents in urine.

## **Reference Books:**

1. Jyoti Saxena, Manita Baunthiyal, Indu Ravi-Laboratory Manual of Microbiology, Biochemistry and Molecular Biology-Scientific Publication, 2012
2. Sunheimer, Graves and Stockwin. Clinical Laboratory Urinalysis. Pearson Prentice Hall Publication, 2014
3. Varley, Alan H Gowen lock - Practical Biochemistry – 6<sup>th</sup> Edition - CBS Publishers, 2002
4. David T Plummer - Practical Biochemistry- 3<sup>rd</sup> Edition - McGraw Hill Publishers, 2005
5. Jayaraman J - Manuals in Biochemistry - New Age International Publishers, 2001

***INDUSTRIAL STUDY TOUR (HOSPITAL / RESEARCH INSTITUTE / INDUSTRY  
ONE VISIT PER YEAR)***

**SEMESTER – III**

**PEBCE20 - ELECTIVE III A: MICROBIOLOGY**

<b>Year/ Sem</b> II / III	<b>Course Code</b> PEBCE20	<b>Title of the Course</b> Microbiology	<b>Course Type</b> Theory	<b>Course Category</b> Elective III A	<b>H/W</b> 3	<b>Credits</b> 3	<b>Marks</b> <b>100</b> 40+60=100
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**Objective:**

To understand the importance of applications of microorganisms.

**Course Outcome (CO)**

On completion of the course, the students will be able to;

1. Recall the taxonomy, morphological features and division process of microbes
2. Outline the microbial growth and its metabolism
3. Apply the microbial culture technique
4. Gain knowledge on the replication processes in microbes
5. Identify the various infectious diseases, its causative agents and antimicrobial drugs

<b>CO / PO</b>	<b>PO 1</b>	<b>PO 2</b>	<b>PO 3</b>	<b>PO 4</b>	<b>PO 5</b>	<b>PO 6</b>
<b>CO 1</b>	H	H	M	H	H	L
<b>CO 2</b>	H	L	M	H	M	L
<b>CO 3</b>	H	H	H	H	H	M
<b>CO 4</b>	H	H	H	M	L	M
<b>CO 5</b>	H	H	H	L	M	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

<b>CO / PSO</b>	<b>PSO 1</b>	<b>PSO 2</b>	<b>PSO 3</b>	<b>PSO 4</b>	<b>PSO 5</b>	<b>PSO 6</b>
<b>CO 1</b>	H	M	M	M	H	M
<b>CO 2</b>	H	M	M	M	M	M
<b>CO 3</b>	H	H	M	H	H	L
<b>CO 4</b>	H	H	M	M	M	M
<b>CO 5</b>	H	H	H	H	H	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

**Unit I:**

**(9 Hours)**

- 1.1 Morphology and Ultrastructure of bacteria, fungi, algae and protozoa. (K1, K2)
- 1.2 Classification of microbes, molecular taxonomy, cell walls of eubacteria – peptidoglycan and related molecules (K1, K2)
- 1.3 Structure and synthesis of cell wall and cell membrane of gram – positive and negative bacteria (K1, K3)

- 1.4 Flagella and motility. Cell inclusion bodies. (K1, K2)
- 1.5 Blue and green bacteria. Budding and appendaged bacteria, spirilla, spirochaetes, gliding and sheathed bacteria, pseudomonas, lactic and propionic acid bacteria. (K1, K2, K3)
- 1.6 Endospore forming rods and cocci, myobacteria, rickettsia and mycoplasma. Archaeobacteria (K1, K2, K3)

**Unit II: (9 Hours)**

- 2.1 Microbial growth – Definition. Mathematical expression of growth, growth curve, measurement of growth and factors affecting growth. (K1, K2, K3)
- 2.2 Microbial metabolism – Overview, photosynthesis in microbes. Role of chlorophylls, carotenoids and phycobilins, Calvin cycle. (K1, K2, K3, K4)
- 2.3 Chemolithotrophy: hydrogen ion – nitrite oxidizing bacteria: nitrate and sulfate reduction: methanogenesis and acetogenesis (K1, K2, K3)
- 2.4 Fermentations – diversity, syntrophy – role of anoxic decompositions (K1, K2, K3)
- 2.5 Nitrogen metabolism, nitrogen fixation (K1, K2)
- 2.6 Hydrocarbon transformation (K1, K2, K4)

**Unit III: (9 Hours)**

- 3.1 Methods in microbial identification. Pure culture techniques (K1, K2, K3, K4)
- 3.2 Theory and practice of sterilization (K2, K2, K3, K4)
- 3.3 Principles of microbial nutrition (K1, K2)
- 3.4 Construction of culture media (K1, K2, K3, K4)
- 3.5 Enrichment culture techniques for isolation of hemoautotrophs (K1, K2, K3, K4)
- 3.6 Chemoheterotrophs and photosynthetic microbes. (K1, K2, K3, K4)

**Unit IV: (9 Hours)**

- 4.1 Bacteria, plant, animal and tumour viruses (K1, K2)
- 4.2 Classification and structure of viruses. Lytic cycle and lysogeny (K1, K2)
- 4.3 DNA viruses: positive and negative strand (K1, K2)
- 4.4 Double stranded RNA viruses (K1, K2, K3)
- 4.5 Replication: example of Herpes, Adenoviruses (K1, K2)
- 4.6 Replication: example Retrovirus, Viroids and Prions (K1, K2)

**Unit V: (9 Hours)**

- 5.1 Disease reservoirs; Epidemiological terminologies. Infectious disease transmissions. Respiratory infections caused by bacteria and viruses (K1, K2, K3)
- 5.2 Tuberculosis, sexually transmitted diseases including AIDS; Vector borne diseases (K1, K2, K3, K4)
- 5.3 Water borne diseases, Public health and water quality. (K1, K2, K5)
- 5.4 Pathogenic fungi (K1, K2, K3, K4)

5.5 Antimicrobial agents, Antibiotics. Penicillin and Cephalosporins, Broad spectrum antibiotics. Antibiotics from Prokaryotes (K1, K2, K3, K4)

5.6 Antifungal antibiotics – mode of action, Resistance to antibiotics. (K1, K2, K3, K4)

**Text Books:**

1. Michael J Pelczar, E.C.S Chan and Noel R Krieg Microbiology- McGraw Hill, 5<sup>th</sup> Edition, 2001
2. Ananthanarayan and Paniker- Textbook of Microbiology- Universities Press, 10<sup>th</sup> Edition, 2002.

**Reference Books:**

1. Jawetz, Melnick and Adelberg- Medical Microbiology-Jaypee Medical- 2015.
2. Patrick R Murray- Basic Medical Microbiology- Elsevier, 2019.
3. Robert W Bauman- Microbiology with diseases by Taxonomy- Pearson Publication, 2012.
4. Prescott. Microbiology- McGraw Hill Education, 9<sup>th</sup> Edition, 2013.
5. Jacquelyn G Black-Microbiology- International Student Version, 8<sup>th</sup> Edition, 2012.

**Open Educational Resources (OER)**

1. <https://youtu.be/ei6Z7orCpPk>
2. <https://youtu.be/NYMTeqpr6JI>
3. <https://youtu.be/J5Nz4cQJ2u8>
4. <https://youtu.be/fH1zS7hlW54>
5. <https://youtu.be/202hkf43HXQ>



### SEMESTER III

#### PEBCF20 - ELECTIVE III B: RESEARCH METHODOLOGY

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
II/ III	PEBCF20	Research Methodology	Theory	Elective III B	3	3	40+60=100

#### Objective:

To addresses the issues inherent in selecting a research problem and discuss the techniques and tools to be employed in completing a research project.

#### Course Outcome (CO):

On completion of the course, the students will be able to;

1. Design the research work
2. Gain an idea on the role of biostatistics in research
3. Understand the significance of internet in research
4. Develop the understanding on database management system
5. Practice the concepts of animal studies and CPCSEA guidelines in research

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	H	H	H	M	L
CO 2	H	H	H	M	M	M
CO 3	H	H	M	H	H	M
CO 4	H	H	H	M	M	L
CO 5	H	H	M	H	M	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	H	H	M	H
CO 2	H	H	H	M	M	M
CO 3	H	H	M	M	M	M
CO 4	H	H	M	M	M	L
CO 5	H	H	M	H	M	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

#### Unit I:

(9 Hours)

- 1.1 Scientific research & writing - Importance and need for research. (K1, K2, K3, K4)
- 1.2 Ethics and scientific research. Formulation of hypothesis. (K1, K2, K3, K4)
- 1.3 Types and characteristic designing a research work. (K1, K2, K3, K4, K6)

- 1.4 Scientific writing - Characteristics - Logical format for writing thesis and papers. (K1, K2, K3, K4, K6)
- 1.5 Essential features of abstract, introduction, review of literature, materials and methods, and discussion. (K1, K2, K3, K4, K6)
- 1.6 Effective illustration - tables and figures. Reference styles - Harvard and Vancouver systems. (K1, K2, K3)

**Unit II: (9 Hours)**

- 2.1 Biostatistics - Collection and classification of data (K1, K2, K3, K4, K6)
- 2.2 Diagrammatic and graphic representation of data measurement of central tendency (K1, K2, K3, K4, K5, K6)
- 2.3 Standard deviation - normal distribution (K1, K2, K3)
- 2.4 Test of significance based on large samples - small samples - Student t test (K1, K2)
- 2.5 Correlation and regression (K1, K2)
- 2.6 Chi square test for independence of attributes - ANOVA. (K1, K2, K3)

**Unit III: (9 Hours)**

- 3.1 Bioinformatics - Introduction to bioinformatics (K1, K2, K3)
- 3.2 Scope of bioinformatics (K1, K2, K3, K4)
- 3.3 Role of computers in biology (K1, K2)
- 3.4 Internet - The World Wide Web. (K1, K2, K3)
- 3.5 Useful search engines - Boolean searching, search engine algorithms. (K1, K2, K3)
- 3.6 Finding scientific articles – PubMed, Science direct. (K1, K2, K3)

**Unit IV: (9 Hours)**

- 4.1 Databases - Data base concepts - database, database system, database management systems - hierarchical, relational and network, database security. (K1, K2, K3, K4)
- 4.2 Biological databases - types, sequence and structure. (K1, K2)
- 4.3 Data submission (K1, K2)
- 4.4 Data retrieval. (K1, K2)
- 4.5 Searching sequence databases - sequence similarity searches, amino acid substitution matrices. (K1, K2, K3, K4, K6)
- 4.6 Database search - FASTA and BLAST, CLUSTAL. (K1, K2, K3, K6)

**Unit V: (9 Hours)**

- 5.1 Bioethics. (K1, K2)
- 5.2 Ethics in animal experimentation. CPCSEA guidelines - Animal care and technical personnel environment, animal husbandry, feed, bedding, water, sanitation and cleanliness, waste disposal, anesthesia and euthanasia. (K1, K2, K3, K6)
- 5.3 Composition of (Human) institutional Ethical Committee (IEC) - General ethical issues. (K1, K2, K3)
- 5.4 Specific principles for chemical evaluation of drugs, herbal remedies and human genetics

research (K1, K2, K3)

5.5 Ethics in food and drug safety. (K1, K2, K3)

5.6 Environmental release of microorganisms and genetically engineered organisms. Ethical issues in human gene therapy and human cloning. (K1, K2)

**Text Books:**

1. C R Kothari -Research Methodology- Methods and Techniques, 4<sup>th</sup> Edition., 2019.
2. Ranjit Kumar -Research methodology- Pearson education, 2005.

**Reference Books:**

1. Bryan Bergeron MD- Bioinformatics Computing- Prentice-Hall of India Pvt.Ltd, 2012.
2. Bergeron BP- Bioinformatics Computing- Printice Hall, 1st Edition, 2002.
3. John M Lachin-Biostatistical Methods- Wiley interscience, 1<sup>st</sup> Edition, 2000.
4. Ethical guidelines for biomedical research on human subjects. ICMR, New Delhi, 2000.
5. Sundar Rao, Jesudian Richard -An Introduction to Biostatistics, 5<sup>th</sup> Edition, 2012.

**Open Educational Resources (OER)**

1. <https://youtu.be/3FE5ldiIp6A>
2. <https://youtu.be/Coe0N2xb8kk>
3. [https://youtu.be/Nx\\_E4Z4y8uQ](https://youtu.be/Nx_E4Z4y8uQ)
4. <https://youtu.be/Ap3rUxB4k9Q>
5. <https://youtu.be/kAxTbc6nsFs>

## SEMESTER IV

### PCBCL20 MOLECULAR BIOLOGY

<b>Year/ Sem</b> II / IV	<b>Course Code</b> PCBCL20	<b>Title of the Course</b> Molecular Biology	<b>Course Type</b> Theory	<b>Course Category</b> Core	<b>H/W</b> 6	<b>Credits</b> 5	<b>Marks</b> 40+60=100
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#### Objective:

The course will enable the student to learn the molecular events occurring in gene and its application in field of biomedical and genetic research.

#### Course Outcome (CO)

On completion of the course, the students will be able to;

1. Demonstrate the nature and role of Gene in life activity
2. Describe the blueprint of life and its functions
3. Outline the mechanism of Replication
4. Outline the role of Transcription
5. Demonstrate the features of Genetic code and mechanism of Translation

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	M	H	H	M	M	M
CO 2	H	L	M	H	H	H
CO 3	L	M	M	L	H	M
CO 4	M	M	H	H	M	L
CO 5	H	H	H	H	M	L
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	M	H	H	L	M	M
CO 2	H	L	M	H	H	H
CO 3	M	H	H	M	H	M
CO 4	L	M	H	M	L	H
CO 5	H	H	L	H	M	L
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

#### Unit I:

**(18 Hours)**

- 1.1 Gene arrangements in prokaryotes and eukaryotes (K2, K3, K4, K5)
- 1.2 Gene structure in eukaryotic organisms, introns, exons, pseudogenes, and gene clusters, spacers, repetitive sequences (K1, K2, K3, K4)
- 1.3 Single and multiple copy genes in eukaryotes, eg – Histones, Alu, copia, satellite.  
Mapping of human genes – techniques used, assignment of important genes (K2, K3, K4, K5)

- 1.4 Gene regulatory mechanisms and cell memory- structure of chromatin - nucleosomes and higher orders of organization (K2, K3, K4, K5, K6)
- 1.5 Chromosome and genes, chromosomal replication, genetic mapping of chromosomes, chromosome banding (K2, K3, K4, K5, K6)
- 1.6 Transposition in human chromosome and chromosomal abnormalities (K1, K2, K3, K4)

**Unit II: (18 Hours)**

- 2.1 DNA replication in prokaryotes (K3, K4, K5, K6)
- 2.2 DNA replication in Eukaryotes (K3, K4, K5, K6)
- 2.3 Inhibitors of prokaryotic replication (K1, K2, K3, K4)
- 2.4 Inhibitors of Eukaryotic replication (K2, K3, K4)
- 2.5 Replication in RNA virus (K2, K3, K4)
- 2.6 Plasmid replication (x174, nl3 A. DNA) (K1, K2, K3)

**Unit III: (18 Hours)**

- 3.1 Prokaryotic Transcription- Promoters, foot-printing experiment, DNA - dependent RNA polymerase -Role of Pribnowbox (K2, K3, K4)
- 3.2 Prokaryotic transcription – mechanism in prokaryotes (K3, K4, K5, K6)
- 3.3 Eukaryotic transcription (K3, K4, K5, K6)
- 3.4 Post-transcriptional modifications of eukaryotic RNAs, RNA splicing, introns and splicing reactions (K1, K2, K3, K4)
- 3.5 Self-splicing introns - group I and group II, exons, spacer sequences, enhancers (K1, K2, K3, K4)
- 3.6 Reverse transcriptase, retroviruses (K1, K2, K3, K4)

**Unit IV: (18 Hours)**

- 4.1 Genetic code: Salient features (K1, K2, K3, K4)
- 4.2 Wobble mechanism and its significance (K1, K2, K3, K4)
- 4.3 Prokaryotic protein biosynthesis (K3, K4, K5, K6)
- 4.4 Eukaryotic protein biosynthesis (K3, K4, K5, K6)
- 4.5 Inhibitors of protein synthesis (K1, K2, K3, K4)
- 4.6 Post-translational modifications in prokaryotes and eukaryotes (K1, K2, K3, K4)

**Unit V: (18 Hours)**

- 5.1 DNA repair – types (K1, K2, K3, K4)
- 5.2 Regulation of gene expression in prokaryotes: Operon concept- lac operon (K3, K4, K5, K6)
- 5.3 An overview of Genomics - Structural genomics (K1, K2, K3, K4)
- 5.4 Functional genomics (K3, K4, K5, K6)

5.5 An overview of Proteomics (K1, K2, K3, K4)

5.6 Human Genome Project, chromosome maps – DNA micro arrays (K1, K2, K3, K4)

**Text Books:**

1. Lehninger, David Nelson and M. Chael M. Cox - Principles of Biochemistry-W.H Freeman and Company Ltd- 4<sup>th</sup> Edition,2005
2. David Friefelder - Molecular Biology- Narosa Publishing House-2<sup>nd</sup> Edition,2005.

**Reference Books:**

1. Lodish, Darnell and Baltimore - Molecular Cell Biology-W.H. Freeman & Company-4<sup>th</sup> Edition,2000
2. T. A. Brown. Gene Cloning and DNA analysis- An introduction. John Wiley Publications - 7 edition, 2016.
3. Gerald Karp, Janet Iwasa, Wallace Marshall. Cell and Molecular Biology, Wiley Publications - 9th edition, 2019.
4. Jocelyn E. Krebs, Elliott S. Goldstein and Stephen T. Kilpatrick. Genes XII. Jones and Barlett Publisher - 12th edition, 2017.
5. Rajeev Tyagi. Genetics, Genomics, Proteomics & Bioinformatics. Manglam Publishers & Distributors, 2012.

**Open Educational Resources (OER);**

1. <https://www.youtube.com/watch?v=3wTAEfjo20c>
2. <https://www.youtube.com/watch?v=Dc21ml8-PI>
3. [https://www.youtube.com/watch?v=exJDso2\\_yRQ](https://www.youtube.com/watch?v=exJDso2_yRQ)
4. [https://www.youtube.com/watch?v=fp9x6TZ\\_zEY](https://www.youtube.com/watch?v=fp9x6TZ_zEY)
5. <https://www.youtube.com/watch?v=5paHhTq87Ak>

## SEMESTER IV

### PCBCM20 ADVANCED CLINICAL BIOCHEMISTRY

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
II / IV	PCBCM20	Advanced Clinical Biochemistry	Theory	Core	6	5	40+60=100

#### Objectives:

To gain concepts of assessing the human physiology using biological fluid.

#### Course Outcome (CO)

On completion of the course, the students will be able to;

1. Apply the process of collection, preservation and storage of blood
2. Communicate the disorders of carbohydrate metabolism
3. Outline the significance of proteins and nucleic acid
4. Compare the liver and renal disorders
5. Discuss the role of diagnostic enzymes

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	M	H	H	H	M	H
CO 2	H	H	H	M	H	H
CO 3	H	M	H	M	H	M
CO 4	M	M	H	M	H	H
CO 5	H	H	M	H	M	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	M	H	M	M
CO 2	H	M	H	M	M	H
CO 3	H	M	H	M	M	H
CO 4	H	M	H	M	M	H
CO 5	H	H	M	H	H	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

#### Unit I:

(18 Hours)

- 1.1 Specimen collection and analysis: Concepts of accuracy, precision, reproducibility, reliability in quality control (K2, K3, K4)
- 1.2 Collection of blood – vein puncture, skin puncture, arterial puncture and anticoagulants (K3, K4, K5)
- 1.3 Collection of urine, preservatives (K1, K2, K4).

- 1.4 CSF & Amniotic fluid – composition & collection (K2, K3, K4)
- 1.5 Sickle cell anemia (K2, K3, K4)
- 1.6 Hemoglobinopathies & Thalassemia (K2, K3, K4)

**Unit II: (18 Hours)**

- 2.1 Disorders of carbohydrate metabolism – Diabetes mellitus-classification, Metabolic complications (K2, K3, K4)
- 2.2 Glucose tolerance test and hypoglycemic agents (K2, K3)
- 2.3 Glycogen storage diseases (K2, K3, K4)
- 2.4 Galactosemia (K2, K3)
- 2.5 Atherosclerosis and Hypercholesterolemic agents (K2, K3, K4)
- 2.6 TaySach's disease, Niemann Pick disease, and Gangliosidosis (K1, K2, K3, K4)

**Unit III: (18 Hours)**

- 3.1 Disorders of protein metabolism- Clinical significance of non-protein nitrogenous substances in blood-urea, uric acid & creatinine (K2, K3, K4)
- 3.2 Plasma protein abnormalities- agammaglobulinemia, proteinuria (K2, K3, K4)
- 3.3 Multiple myeloma, Phenylketonuria, tyrosinosis (K2, K3, K4)
- 3.4 Plasma protein abnormalities- alkaptonuria, maple syrup urine disease (K1, K2, K3, K4)
- 3.5 Hartnup disease, albinism and homocystinuria (K2, K3, K4)
- 3.6 Disorders of nucleic acid metabolism-Gout, xanthinuria (K2, K3, K4)

**Unit IV: (18 Hours)**

- 4.1 Liver function test based on abnormalities of bile pigment metabolism, CHO, detoxification & excretory function of liver (K1, K2, K3, K4)
- 4.2 Liver Diseases-Hepatitis, Cirrhosis, Jaundice (K1, K2, K3, K4)
- 4.3 Gastric function test – Tube analysis and Tubeless analysis (K2, K3, K4)
- 4.4 Renal function tests-Urea, creatinine, inulin clearance (K1, K2, K3, K4)
- 4.5 Renal Diseases-Renal failure, Renal calculi - Glomerulonephritis - Nephrotic syndrome (K2, K3, K4)
- 4.6 Diagnosis of Hormone disorder: Thyroid test, Insulin stimulation test, C- peptide assay (K1, K2, K3, K4)

**Unit V: (18 Hours)**

- 5.1 Diagnostic enzymes-clinical significance of Aspartate transaminase, Alanine transaminase (K2, K3, K4)
- 5.2 Diagnostic enzymes-clinical significance of Creatine kinase, Lactate dehydrogenase (K2, K3, K4)
- 5.3 Diagnostic enzymes-clinical significance of Alkaline phosphatase, gamma glutamyl transpeptidase (K2, K3, K4)
- 5.4 Cancer-Etiology, morphological changes in tumor cells (K2, K3, K4)
- 5.5 Tumour markers-AFP, CEA & HCG and Carcinogenic agents (K1, K2, K3, K4)
- 5.6 Role of free radicals in health & diseases (K2, K3, K4)



**Text Book:**

1. Carl A Burtis, Edward R Ashwood and Tietz- Fundamentals of Clinical Chemistry- Harcourt Private Limited, New Delhi-5<sup>th</sup> Edition,2001
2. Nandha Maheshwari-Clinical Biochemistry-Jaypee Medical Publishe-2<sup>nd</sup> Edition,2017

**Reference Books:**

1. Davidson and Henry - Clinical Diagnosis by Laboratory Methods-19<sup>th</sup> Edition, 2005
2. Dr. M. N. Chatterjea and Rana Shinde - Textbook of Medical Biochemistry-Jaypee Brothers Medicinal Publishers Ltd, New Delhi- 6<sup>th</sup> Edition ,2005
3. Philip D. Mayne - Clinical Chemistry in Diagnosis and Treatment- ELST Publishers-6<sup>th</sup> Edition,2009
4. T.M. Devlin -Text book of Biochemistry with clinical correlation - J. Wiley and Sons publishers-7<sup>th</sup> Edition,2010
5. Lawrence A. Kaplan, Amadeo J. Perce and Steven C. Kazmierczak – Clinical Chemistry- Elsevier-5<sup>th</sup> Edition,2009

**Open Educational Resources (OER):**

1. <https://www.youtube.com/watch?v=yVRj7CWFj9A>
2. <https://www.youtube.com/watch?v=LuVcPNF5Slg>
3. <https://www.youtube.com/watch?v=UZFOdUP4UTY>
4. [https://www.youtube.com/watch?v=mUF\\_VglpmMc](https://www.youtube.com/watch?v=mUF_VglpmMc)
5. <https://www.youtube.com/watch?v=Nz2YGL4NWEE>

**SEMESTER - IV****PEBCG20 ELECTIVE – IV A: PLANT BIOCHEMISTRY**

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
II / IV	PEBCG20	Plant Biochemistry	Theory	Elective – IV A	3	3	40+60=100
II / IV	PEBCG20	Plant Biochemistry	Theory	Elective – IV A	3	3	40+60=100

**Objective:**

To help the students to understand the plant metabolites and their application in the field of medicine.

**Course Outcomes (CO)**

On completion of the course, the students will be able to;

1. Identify various natural and artificial ways to propagate plants
2. Discuss the function and composition of different plant structures
3. Describe the processes of germination and plant growth
4. Explain the role of plant growth regulators and plant tissue culture
5. Perform the calculations to predict expected plants by experiments

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	M	H	H	M	M
CO 2	H	H	H	M	H	M
CO 3	M	H	M	H	H	M
CO 4	H	M	H	M	H	M
CO 5	H	H	H	H	M	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	M	M	L	H
CO 2	H	M	H	H	H	M
CO 3	H	H	M	M	L	M
CO 4	H	M	M	M	L	M
CO 5	H	H	M	M	L	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

**Unit I:****(9 Hours)**

- 1.1 Photosynthetic Pigment, Light reaction (K2, K3, K4)
- 1.2 Dark reactions of photosynthesis (K2, K3, K4)

- 1.3 Proton gradient and ATP synthesis of chloroplast (K2, K3, K4)
- 1.4 Regulation of photosynthesis - Mode of action of DCMU (K1, K2, K3, K4)
- 1.5 Bacterio rhodopsin, CAM metabolism, RUBISCO (K2, K3, K4)
- 1.6 Regulation of photorespiration and crop productivity (K2, K3, K4)

**Unit II: (9 Hours)**

- 2.1 Nitrogen cycle Disotropes biochemistry of Symbiotic and Nonsymbiotic nitrogen fixation (K2, K3, K4)
- 2.2 Assimilation of ammonium, carbon- nitrogen ratio (K1, K2, K3, K4)
- 2.3 Uride metabolism, Nitrate metabolism, Genetics of nitrogen fixation, Genetic manipulation of Nif genes (K2, K3, K4)
- 2.4 Biosynthesis, Mode of action, transport, distribution and physiological effect of Auxin, Gibberellin, Cytokinin (K2, K3, K4)
- 2.5 Biosynthesis, Mode of action, transport, distribution and physiological effect of Abscisic acid (ABA) (K2, K3, K4)
- 2.6 Biosynthesis, Mode of action, transport, distribution and physiological effect of Ethylene (K2, K3, K4)

**Unit III: (9 Hours)**

- 3.1 Biochemistry of plant disease, defense mechanism of plants (K3, K4)
- 3.2 Biosynthesis, distribution and biological functions of industrially important secondary metabolite (K2, K3, K4)
- 3.3 Principles of plant diseases control (K2, K3)
- 3.4 Methods in phytochemicals: Extraction, fractionation and characterization (K2, K3, K4)
- 3.5 General properties of plant proteinase inhibitor (K3, K4)
- 3.6 Proteinase inhibitors-serine proteinase, acid proteinase and metalloproteinase (K2, K3, K4)

**Unit IV: (9 Hours)**

- 4.1 Water relations of plant, Mechanism of water absorption (K2, K3)
- 4.2 Aquaporin Symplast - Apoplast concept (K2, K3)
- 4.3 Ascent of sap (K2, K3)
- 4.4 Source and sink relationship, Translocation of Inorganic and Organic substances, Bud and Seed dormancy (K2, K3)
- 4.5 Senescence and Stress response in plant (K2, K3, K4)
- 4.6 Phytochromes- Properties, Photochemical, Transformation, Mode of action and physiological effect (K2, K3, K4)

**Unit V: (9 Hours)**

- 5.1 DNA polymorphism – Importance of RFLP and RAPD in plant breeding management (K2, K3, K4)
- 5.2 Aspects of plant genetic engineering. Tacking, Mapping and Cloning of plant genes, Selectable markers (K2, K3)

- 5.3 Reporter genes and promoters used in plant vectors. Ti plasmids and Crown gall tumor (K2, K3, K4)
- 5.4 Genetic engineering of plant for disease resistance, Cytoplasmic Male Sterility, Edible oil, Biodegradable plastics (K2, K3)
- 5.5 Delay of fruits ripening -Methods (K2, K3)
- 5.6 Application of plant tissue culture (K2, K3, K4)

**Text Books:**

1. T.W. Goodwin- Introduction to Plant Biochemistry -Pergamon Press- 2<sup>nd</sup> Edition,2005.
2. P.J. Lea, L.L. Castle and Lea-Plant Biochemistry and Molecular Biology- John Wiley & Sons- 2<sup>nd</sup> Editon-2000

**Reference Books:**

1. R.K. Sinha- Modern Plant Physiology- Narosa Publishing House -2<sup>nd</sup> Editon,2004.
2. M.J. Pelczar, E.C.S. Chan and N.R. Kreig, Microbiology Tata McGraw Hill Publishing Co. 7<sup>th</sup> Edition,2013
3. L.M. Prescott, J.P. Harley and D.A. Klein, Microbiology-McGraw Hill Publishers- 6<sup>th</sup> Edition,2004
4. B.D. Davis, R. Dulbecco, H.N. Eisen and H.S. Ginsberg-Microbiology-3<sup>rd</sup> Edition,2008
5. P. M. Dey and J. R. Hardorne- Plant Biochemistry-Elsevier Science,1<sup>st</sup> Edition -2013

**Open Educational Resources (OER):**

1. <https://www.youtube.com/watch?v=VYlsLPwMzFo>
2. <https://www.youtube.com/watch?v=tCrgTV20BD4>
3. [https://www.youtube.com/watch?v=\\_Cbv4MecfA4](https://www.youtube.com/watch?v=_Cbv4MecfA4)
4. [https://www.youtube.com/watch?v=tIy9ZXP\\_oz8](https://www.youtube.com/watch?v=tIy9ZXP_oz8)
5. <https://www.youtube.com/watch?v=AUiP9eH-0NI>

## SEMESTER IV

### PEBCH20 ELECTIVE IV- B: HERBAL THERAPY

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
II / IV	PEBCH20	Herbal Therapy	Theory	Elective IV B	3	3	40+60=100

#### Objective:

To help students to understand the concepts in pharmacognosy and the role of medicinal plants.

#### Course Outcome (CO)

On completion of the course, the students will be able to;

1. Describe the concepts of Pharmacognosy
2. Explain the classification of medicinal plants
3. Outline the different parts of plant
4. Predict the Herbal medicines for Human ailments
5. Apply the knowledge on the important metabolic pathways in plants

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	M	H	H	M	M
CO 2	H	H	H	M	H	M
CO 3	M	H	M	H	H	M
CO 4	H	M	H	M	H	M
CO 5	H	H	H	H	M	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	M	M	L	H
CO 2	H	M	H	H	H	M
CO 3	H	H	M	M	L	M
CO 4	H	M	M	M	L	M
CO 5	H	H	M	M	L	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

**Unit I:** (9 Hours)

- 1.1 Pharmacognosy - Definition and history (K1, K2, K3)
- 1.2 Indian systems of medicine - Siddha, Ayurveda, and Unani systems (K2, K3, K4)
- 1.3 Taxonomy of locally available medicinal plants (Tulsi, Aloe vera, Neem), their chemical constituents and medicinal uses (K2, K3, K4)
- 1.4 Classification of Crude drugs (K2, K3)
- 1.5 Chemistry of Drugs - Future of pharmacognosy (K2, K3)
- 1.6 Quality control of drugs of natural origin (K2, K3, K4)

**Unit II:** (9 Hours)

- 2.1 Classification of medicinal plants - Vernacular name and family (K2, K3)
- 2.2 Geographical source, cultivation, collection, and processing of crude drugs (K1, K2, K3, K4)
- 2.3 Morphological, histological studies and chemical constituents of crude drugs (K2, K3, K4)
- 2.4 Therapeutic and other pharmaceutical uses of underground stem – ginger and Alpinia (K2, K3, K4)
- 2.5 Therapeutic and other pharmaceutical uses of Roots - Rauwolfia – Belladonna (K2, K3, K4)
- 2.6 Therapeutic and other pharmaceutical uses of Aerial parts - Bark – Cinchona (K2, K3, K4)

**Unit III:** (9 Hours)

- 3.1 Leaves - Adathoda, Eucalyptus - Flower - Clove fruits seeds (K1, K2, K3, K4)
- 3.2 Nux vomica, Nutmegs and Gooseberry (K2, K3)
- 3.3 Unorganized drugs - Gum, Acacia and Resin (K2, K3, K4)
- 3.4 Turpentine, fixed oil and castor oil. (K2, K3)
- 3.5 Propagation of medicinal plants – Micropropagation (K2, K3, K4)
- 3.6 Macro propagation conservation of rare medicinal plants (K2, K3)

**Unit IV:** (9 Hours)

- 4.1 Herbal medicines for Human ailments (K2, K3, K4)
- 4.2 Drugs Acting on Cardiac Diseases, Cerebral Diseases, Nasal disease (K2, K3, K4)
- 4.3 Depressants. - Stimulants - Respiration and Drugs (K2, K3)
- 4.4 Urogenital system and drugs - Psychoactive plants (K2, K3)
- 4.5 Preparation of herbal infusion (K2, K3)
- 4.6 Toxicity in herbal drugs and their interactions (K2, K3)

**Unit V:****(9 Hours)**

- 5.1 Role of biotechnology in medicinal plants banks (K2, K3)
- 5.2 Cultivation of medicinal and aromatic plants (K2, K3, K4)
- 5.3 Drug adulteration - methods of Drug evaluation (K2, K3).
- 5.4 Herbal food - Food processing - packaging (K2, K3)
- 5.5 Herbal sale and Export of medicinal plants (K2, K3, K4)
- 5.6 Marketing, Intellectual property rights and Export laws (K2, K3, K4)

**Text Books:**

1. T.W. Goodwin-Introduction to Plant Biochemistry- Pergamon Publishers-3<sup>rd</sup> Edition,2007
2. Kumar N.C-An Introduction to Medical Botany and Pharmacognosy- 3<sup>rd</sup> Edition,2005

**Reference Books:**

1. George Edward Trease and W.C. Evans – Pharmacognosy-English Language Books Society, Baelliere Tindall- 12<sup>th</sup> Edition,2008
2. Handa, S.S. and Kapoor V.K-Pharmacognosy -Vallabh Prakashan Publishers, 2<sup>nd</sup> Edition-2004
3. Jain, S.K - Indian Medicinal plants- National book trust -4<sup>th</sup> Edition,2004
4. Kokate, C.K, Durohit, A.P and Gokhale, S.R- Pharmacognosy - Nirali Prakasham Publishers, Pune-12<sup>th</sup> Edition-2011
5. Wallis, T.E-Text book of pharmacognosy- CBS publishers and distributors, New Delhi-5<sup>th</sup> Edition,2008

**Open Educational Resource (OER):**

1. <https://www.youtube.com/watch?v=rde0RSFNuu8>
2. <https://www.youtube.com/watch?v=QPQ9sZuiOb8>
3. <https://www.youtube.com/watch?v=5p4NOvF5EX4>
4. <https://www.youtube.com/watch?v=dOlkogaWF3M>
5. <https://www.youtube.com/watch?v=fhkvXf5t9lo>

## INDEPENDENT ELECTIVE I A: ORGANIC FARMING

Year/ Sem I / I	Course Code PIBCA20	Title of the Course Organic Farming	Course Type Theory	Course Category Independent elective	H/W	Credits 2	Marks 40+60=100
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### Objective:

To help students to understand the concepts and importance of organic farming and use it as a source of income generation.

### Course Outcomes (CO)

On completion of the course, the students will be able to;

1. Analyze the importance of organic farming
2. Apply the concept of organic farming
3. Relate the importance of plant protection
4. Use the organic methods for plant cultivation
5. Plan the concept of income generation through organic farming and terrace gardening

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	M	H	H	M	M
CO 2	H	L	H	M	H	M
CO 3	M	H	M	L	H	M
CO 4	L	M	H	M	H	M
CO 5	H	H	H	H	M	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	M	M	L	H
CO 2	H	M	H	L	H	M
CO 3	H	L	M	M	L	M
CO 4	H	M	M	M	L	M
CO 5	L	H	M	M	L	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

### Unit-I

- 1.1 Introduction: Farming, basic concepts, principles and development of organic farming. (K1, K2)
- 1.2 Scope of organic farming Sustainable agriculture (K1, K2)
- 1.3 Needs for organic farming, types of organic farming (K1, K2)
- 1.4 Requirement of organic farming (K1, K2)
- 1.5 Conventional and organic farming (K1, K2, K3)
- 1.6 Components of organic farming (K1, K2)

### Unit -II

- 2.1 Organic farming system (K1, K2, K3)
- 2.2 Green manuring (K1, K2)



- 2.3 Types and stages of composting- vermicomposting, composite quality and marketing (K1, K2, K3, K4, K5)
- 2.4 Preparation of organic manure- Bulky organic manure and concentrated organic manure (K1, K2, K3)
- 2.5 Biofertilizers: Preparation, applications, advantages and disadvantages (K1, K2)
- 2.6 Soil tillage, land preparation and mulching (K1, K2, K3)

### **Unit -III**

- 3.1 Plant protection methods- Biopesticides- Formulation- granules, fumigants spray (K1, K2, K3, K6)
- 3.2 Preparation of pesticides from Chrysanthemum, Neem, Tobacco (K1, K2, K3, K4)
- 3.3 Advantages of biopesticides (K1, K2)
- 3.4 Weed management (K1, K2, K3)
- 3.5 Biocontrol agents (K1, K2, K3)
- 3.6 Plant natural predators (K1, K2)

### **Unit-IV**

- 4.1 Organic crop production methods- Rice, Coconut (K1, K2, K4, K5)
- 4.2 Organic crop production methods- Mango, Banana (K1, K2, K4, K5)
- 4.3 Organic crop production methods - Ginger (K1, K2, K4, K5)
- 4.4 Organic crop production methods -Pepper, Cardamom (K1, K2, K4, K5)
- 4.5 Organic crop production methods Medicinal plants- Tulsi (K1, K2, K4)
- 4.6 Livestock components in organic farming (K1, K2)

### **Unit-V**

- 5.1 Quality analysis of organic food (K1, K2)
- 5.2 Organic food and health benefits. (K1, K2)
- 5.3 Farm economy-cost of production system marketing. (K1, K2, K3, K4)
- 5.4 Income generation farming: Terrace farming. (K1, K2, K3, K4)
- 5.5 Income generation farming: Mushroom cultivation. (K1, K2, K3, K4)
- 5.6 Organic standard, organic certification process (K1, K2)

**[Knowledge Level: K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create]**

### **Recommended Reading:**

1. SR Reddy. Principles of organic farming. Kalyani publications, 2017
2. Dr. Ranjan Kumar Biswas. Organic Farming in India. N D publisher, 2014
3. Mamta Bansal. Basic of Organic farming. CBS Publishers and Distributors Pvt Ltd, 2017
4. Kolay A.K. Manures and Fertilizers. Atlantic Publisher, 2008
5. RK Sharma. Agriculture at a glance. 20<sup>th</sup> revised and enlarged edition, 2018
6. Chaeles L Mohler, Sue Ellen Johnson. Crop rotation on organic farms. NRAES Publisher, 1<sup>st</sup> Edition, 2009

### **Open Educational Resources (OER)**

1. <https://youtu.be/RFBPStyE9I0>
2. <https://youtu.be/U1DyKn3lYVvk>
3. <https://youtu.be/TQEA7ljvIQ>
4. <https://youtu.be/n1VFLGp1xL8>
5. <https://youtu.be/V-SDjdTB1nw>

## INDEPENDENT ELECTIVE I B: FOOD PRESERVATION

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
I / I	PIBCB20	Food Preservation	Theory	Independent elective	-	2	40+60=100

### Objective:

To enable students to understand the concepts of food preservation and methods involved

### Course Outcomes (CO)

On completion of the course, the students will be able to;

1. Outline the role of microbes in food spoilage and methods adopted to overcome microbial food spoilage
2. Apply the general methods for preserving fruits and vegetables
3. Find the methods of food preservation
4. Explain the methods for identifying food spoilage
5. Use the methods for preserving non-vegetarian foods/ meat products

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	H	M	M	L	H
CO 2	H	M	H	H	H	M
CO 3	H	H	M	M	L	M
CO 4	H	M	M	M	L	M
CO 5	H	H	M	M	L	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	M	M	L	H
CO 2	H	M	H	H	H	M
CO 3	H	H	M	M	L	M
CO 4	H	M	M	M	L	M
CO 5	H	H	M	M	L	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

### Unit-I

- 1.1 Types of spoilage in perishables and Nonperishable - Food classification based on spoilage and shelf life (K1, K2, K3)
- 1.2 Spoilage of by products and factors affecting quality - Storage changes that take place in the food spoiled (K1, K2, K3, K4)
- 1.3 Preservation of spoilage, storage conditions (K1, K2, K3, K4)
- 1.4 Types of spoilage in canned food-Definition of canning, steps in the process of canning from Field (K1, K2, K3, K4)
- 1.5 Types of spoilage in canned food and prevention (K1, K2, K3)

1.6 Causes of spoilage, remedial measures to be taken General spoilage of foods (K1, K2, K3)

## **Unit-II**

2.1 Fruits and vegetable drying/dehydration- General methods of fruits & vegetable drying/dehydration, sun drying, mechanical drying (K1, K2, K3, K4, K5)

2.2 Types of dryers (K1, K2)

2.3 Characteristics of dried fruits and vegetables (K1, K2)

2.4 General process of fruit and vegetable drying (K1, K2)

2.5 Specialized drying operations in fruits and vegetables (K1, K2)

2.6 Pickles: Principle of pickle production-different types of pickles from fruits and vegetables. (K1, K2)

## **Unit-III**

3.1 Method of techniques of proper packaging of finished products &proper storing in cold storages &refrigerator-selection of suitable packaging material (K1, K2, K3, K4, K5)

3.2 Packaging and storage for bakery items- Transportation & marketing (K1, K2, K3)

3.3 Method of techniques of proper packaging of finished products &proper storing in cold storages &refrigerator-selection of suitable packaging material (K1, K2, K3, K4)

3.4 Packaging and storage for company items (K1, K2)

3.5 Transportation & marketing - Food safety like HACCP, ISO 22000, FSSAI (K1, K2)

3.6 Importance of Personal hygiene (K1, K2)

## **Unit-IV**

4.1 Identification of spoilage in fresh fruits and vegetables, application of remedial measures to prevent them (K1, K2, K4, K6)

4.2 Identification of spoilage in preserved fruit and Vegetables and remedial measures (K1, K2, K3, K4)

4.3 Identification of spoilage in food – bacteria, Yeast and Mold – remedial measures. (K1, K2, K3, K4)

4.4 Identification of spoilage in milk and Milk products. (K1, K2, K3, K4)

4.5 Identification of spoilage in food by insects – Identification of insects. (K1, K2, K3, K4)

4.6 Identification of food adulteration and Adulterated food. (K1, K2, K3, K4)

## **Unit-V**

- 5.1 Fleshy and sea food processing- Meat, Fish (K1, K2, K3, K4)
- 5.2 Fleshy and sea food processing- Poultry (K1, K2, K3, K4)
- 5.3 Fleshy and sea food processing-Egg (K1, K2, K3, K4)
- 5.4 Pre-Processing, processing and preservation- Smoking, Canning, drying (K1, K2, K3, K4)
- 5.5 Cooling, Dielectric Ohmic and infra-red heating (K1, K2)
- 5.6 Nutritional losses during processing and storage (K1, K2)

**[Knowledge Level: K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create]**

### **Recommended Reading:**

1. Siva Sankar, Food Processing and Preservation, Prentice hall of India Pvt Ltd, New Delhi. 3<sup>rd</sup> Printing, 2005
2. Panda H. The Complete Book on Fruits, Vegetables and Food Processing. NIIR Project Consultancy Service, 2013.
3. B. Srilakshmi. Food Science, New Age Publishers,2002
4. Meyer and Lillian Hoagland. Food Chemistry, New Age publication,2004
5. Bawa. A.S, Raju P.S, Chauhan O.P. Food Science. New India Publishing agency, 2013
6. Frazier WC and Westhoff DC. Food Microbiology, TMH Publication, New Delhi, 2004
7. Subbulakshmi and shoha A Udipi. Food Processing and Preservation. New Age International Publishers. New Age Publishers. 2006

### **Open Educational Resources (OER):**

1. <https://youtu.be/cNvIdbH0IaI>
2. <https://youtu.be/k-KHRJkVaGI>
3. <https://youtu.be/zh7CACofsio>
4. <https://youtu.be/pa32TWO5ucY>
5. <https://youtu.be/4-MBJwNgOak>

## INDEPENDENT ELECTIVE II A: HORTICULTURE

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
I / II	PIBCC20	Horticulture	Theory	Independent elective - III	-	2	40+60=100

### Objective:

To emphasis on the significance and concepts of horticulture and the techniques involved.

### Course Outcomes (CO)

On completion of the course, the students will be able to;

1. Recall the significance of horticulture
2. Outline the impact of soil nature on horticulture
3. Apply the concept of hybrid to enhance yield
4. Gain knowledge on cropping techniques and harvesting methods
5. Identify the role of gardening in common places

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	H	M	M	L	H
CO 2	H	M	H	H	H	M
CO 3	H	H	M	M	L	M
CO 4	H	M	M	M	L	M
CO 5	H	H	M	M	L	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	M	M	L	H
CO 2	H	M	H	H	H	M
CO 3	H	H	M	M	L	M
CO 4	H	M	M	M	L	M
CO 5	H	H	M	M	L	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

### Unit-I

- 1.1 Horticulture – Definition, scope and importance, Division and classification of horticultural crops (K1, K2, K3, K4)
- 1.2 Propagation – definition, methods, seed propagation, vegetative propagation, micro propagation (K1, K2, K3, K5)
- 1.3 Planting systems – Protected cultivation (K1, K2)

- 1.4 Irrigation systems - Weed management – nutrient application methods in horticultural crops – crop regulation (K1, K2, K3, K5)
- 1.5 Maturity indices – harvesting methods, pre cooling – packaging (K1, K2, K3)
- 1.6 Storage of horticultural crops. (K1, K2, K3)

## **Unit-II**

- 2.1 Soil – definition – components – pedology –Edaphology. (K1, K2, K3)
- 2.2 Physical properties of soil – Color, Texture, structure, Bulk density, Particle density, Pore space; soil water, soil air, soil temperature and their significance in crop production. (K1, K2, K3, K4)
- 2.3 Soil chemical properties – Soil reaction, EC and CEC. Soil Organic Matter and its importance on soil properties – Essential nutrients for crop plants - Major, secondary and micro nutrients -Soils of Tamil Nadu. (K1, K2, K3, K4, K5)
- 2.4 Types – Straight, Complex, Compound, Mixed, Fortified and chelated fertilizers and their reactions in soil. (K1, K2, K3, K4, K5)
- 2.5 Techniques to enhance fertilizer use efficiently. (K1, K2, K3, K4, K5)
- 2.6 Soil fertility – INM and IPNS – Problem soils – acid, saline and alkaline soils- their formation, reclamation and management. (K1, K2, K3)

## **Unit-III**

- 3.1 Morphology and general anatomy of medicinally important plant parts: Roots, Stem and its modifications, Barks, Leaves, Flowers, Fruits, Seeds. (K1, K2)
- 3.2 Study of some medicinally important families (diagnostic features with examples of species of medicinal use): Papaveraceae, Rutaceae (K1, K2)
- 3.3 Study of some medicinally important families (diagnostic features with examples of species of medicinal use): Rubiaceae, Asteraceae, Solanaceae, Scrophulariaceae (K1, K2)
- 3.4 Study of some medicinally important families (diagnostic features with examples of species of medicinal use): Lamiaceae, Liliaceae, Fabaceae, Apiaceae (K1, K2)
- 3.5 Cultivation methods, Herbal pesticides, Harvesting and Storage. (K1, K2)
- 3.6 Marketing and general aspects of export of medicinally important plants (K1, K2)

## **Unit-IV**

- 4.1 Dry land horticulture – Importance, scope and distribution- Crops suitable for dry land systems – Important varieties, climate and soil requirements, commercial propagation methods (K1, K2)
- 4.2 Spacing and planting patterns - Cropping systems and intercropping – mulching - Soil and moisture conservation methods (K1, K2)
- 4.3 Anti transparent – Management of nutrients, water, weeds and problem soils (K1, K2)
- 4.4 Regulation of cropping – training and pruning methods - top working and rejuvenation (K1, K2)
- 4.5 Use of plant growth regulators (K1, K2)
- 4.6 Post harvest handling – Economics of production. (K1, K2)

## **Unit-V**

- 5.1 Scope and importance of ornamental gardening and landscaping –principles – formal and informal garden (K1, K2, K3)
- 5.2 Styles of garden - Features of garden - Garden components and adornments – plant Components - non plant components - garden walls, fencing, steps, garden drives and paths– sunken garden, roof garden, rockeries. (K1, K2, K3)
- 5.3 Operations in planting and maintenance of public garden, institutional garden, Industrial garden, residential complex garden (K1, K2, K3)
- 5.4 Operations in landscape maintenance for high ways, bus terminus, airports, city roads and IT parks. (K1, K2)
- 5.5 Lawn – types of lawn grasses – criteria for selection- methods of lawn establishment – operation and maintenance – problems and remedial management (K1, K2, K3)
- 5.6 Flower arrangements and dry flowers – suitable plant (K1, K2)

**[Knowledge Level: K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create]**

#### **Recommended Reading:**

1. Kaushal Kumar Mishra and Rajesh Kumar. Fundamentals of Horticulture. Biotech Books, 2014
2. Prasad. Principles of Horticulture. AGROBIOS publisher, 2<sup>nd</sup> Edition, 2012
3. Ivan A Ross. Medicinal Plants of the World. Humana Publication, 5<sup>th</sup> Edition, 2005
4. Jitendra Singh. Fundamental to Horticulture. Kalyani Publisher, 2014.
5. Charles Adams, Mike Early, Jane Brook and Katherine Bamford. Principles of Horticulture. Routledge Publication, 2014
6. Kumar N. Introduction to Horticulture, Oxford and IBH Publication, New Delhi, 2011
7. Robert E White. Principles and Practice of Soil Science: The soil as a Natural Resource. Blackwell publishing, 4<sup>th</sup> Edition, 2005

#### **Open Educational Resources (OER):**

1. <https://youtu.be/RTR2RgMbJ-g>
2. <https://youtu.be/MUCk9FqjCBc>
3. <https://youtu.be/AAy5Z4zjgMU>
4. <https://youtu.be/iqOQTVGoLuI>
5. <https://youtu.be/K8a1RkIeick>

## INDEPENDENT ELECTIVE II B: CANCER BIOLOGY

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
I/ II	PIBCD20	Cancer Biology	Theory	Independent elective - IV	-	2	40+60=100

### Objectives:

To help students to understand the biology, diagnosis and treatment involved in cancer.

### Course Outcomes (CO):

On completion of the course, the students will be able to,

1. Describe the latest techniques in the diagnosis and treatment of cancer
2. Asses the contribution of environmental and genetic factors to cancer causation
3. Use inductive and deductive reasoning to evaluate the biological mechanisms that lead to the induction of cancer
4. Discuss the principle, clinical significance and cascade of metastasis
5. Examine the basic concepts of clinical research in oncology

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	M	H	H	M	M
CO 2	M	L	H	M	H	M
CO 3	M	H	M	H	H	L
CO 4	L	M	H	M	H	M
CO 5	H	H	H	H	L	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	H	M	M	L	H
CO 2	M	M	H	L	H	M
CO 3	H	L	M	H	L	M
CO 4	H	M	M	M	L	M
CO 5	L	M	M	M	L	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

### Unit I:

- 1.1 Introduction to Cancer Biology (K1, K2)
- 1.2 Different forms of cancers (K2, K3)
- 1.3 Cancer screening and early detection (K1, K2, K3)
- 1.4 Detection using biochemical assays (K2, K3)
- 1.5 Tumor markers (K1, K3)
- 1.6 Molecular tools for early diagnosis of cancer (K2, K3)

### Unit II:

- 2.1 Theory of Carcinogenesis (K1, K2)



- 2.2 Chemical carcinogenesis (K3)
- 2.3 Principles of physical carcinogenesis (K2, K3)
- 2.4 X-ray radiation (K3)
- 2.5 Mechanisms of radiation carcinogenesis (K1, K2, K3)
- 2.6 Diet and cancer (K2, K3)

### **Unit III:**

- 3.1 Signal targets and cancer (K1, K2)
- 3.2 Activation of kinases; Oncogenes, identification of oncogenes, retroviruses and oncogenes (K2, K3)
- 3.3 Detection of oncogenes, Oncogenes/proto oncogene activity (K1, K2)
- 3.4 Growth factors related to transformation, Telomerases (K1, K2, K3)
- 3.5 Tumor suppressor genes (K1, K2)
- 3.6 Modulation of cell cycle in cancer (K2, K3)

### **Unit IV:**

- 4.1 Principles of cancer metastasis (K1, K2)
- 4.2 Clinical significances of invasion (K2, K3)
- 4.3 Metastatic cascade (K1, K2)
- 4.4 Basement membrane disruption (K1, K2, K3)
- 4.5 Proteinases (K1)
- 4.6 Tumor cell invasion (K1, K2)

### **Unit V:**

- 5.1 Different forms of therapy, chemotherapy, radiation therapy (K1, K2)
- 5.2 Detection of cancers (K1, K2)
- 5.3 Prediction of aggressiveness of cancer (K2, K3)
- 5.4 Advances in cancer detection (K3)
- 5.5 Use of signal targets towards therapy of cancer (K1, K2, K3)
- 5.6 Gene therapy (K1, K3)

### **Recommended Reading:**

1. Robert A. Weinberg - The Biology of Cancer - W. W. Norton & Compan - 2<sup>nd</sup> edition 2013
2. Robin Hesketh -Introduction to cancer Biology - Cambridge University Press - 1<sup>st</sup> edition - 2103
3. Lauren Pecorino - Molecular Biology of Cancer - Oxford University Press - 3<sup>rd</sup> edition - 2012
4. Dunmock N.J and Primrose S.B - Introduction to Modern Virology - John Wiley & Sons – 6<sup>th</sup> Revised edition, 2006
5. David P Clark and Nanette J Pazdernik – Biotechnology: Applying genetic revolution - Academic Cell – 1<sup>st</sup> edition, 2010
6. Eric Sikorski, George Plopper - Lewin’s Cells - Jones & Bartlett Learning, LLC – 3<sup>rd</sup> edition, 2013

### **Open Educational Resources (OER):**

1. <https://youtu.be/MqW3uUCj0-A>
2. <https://youtu.be/w4w2VTQqyMM>
3. [https://youtu.be/C-Njz\\_iSvLI](https://youtu.be/C-Njz_iSvLI)
4. <https://youtu.be/8LhQllh46yI>
5. <https://youtu.be/aO4-KFEz8NE>

## INDEPENDENT ELECTIVE III A: NANOBIO TECHNOLOGY

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
II / III	PIBCE20	Nanobiotechnology	Theory	Independent elective - V	-	2	40+60=100

### Objective:

The course aims to provide an interdisciplinary knowledge on Nano materials and their applications in biosciences.

### Course Outcome (CO)

On completion of the course, the students will be able to;

1. Apply the essential role of Nanoscience
2. Outline the prospective of Nano biology and Nano sensors
3. Discuss the Nanoparticle drug base delivery systems
4. Create knowledge to develop Nanomaterials
5. Identify the role of plants in Nanoparticle synthesis

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	M	M	L	H	M	M
CO 2	M	H	M	L	H	H
CO 3	L	L	M	H	H	L
CO 4	H	M	H	M	M	H
CO 5	H	L	M	H	M	L
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	M	L	H	M	L
CO 2	L	H	H	M	L	M
CO 3	M	L	M	H	L	M
CO 4	H	M	L	M	H	L
CO 5	H	L	H	H	M	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

### Unit I:

- 1.1 Introduction to Biocompatibility (K2, K3, K4)
- 1.2 Antibacterial Activity-Principles and Applications (K2, K3, K4)
- 1.3 Biomaterial Nano Circuitry-Protein based Nano circuitry (K3, K4)
- 1.4 Neurons for network formation of DNA (K2, K4)
- 1.5 Nanostructures for mechanics and DNA based computation (K3, K4)
- 1.6 DNA based Nano mechanical devices- Applications (K2, K3)

### Unit II:

- 2.1 Interaction between Biomolecules and Nanoparticle surface (K3, K4)
- 2.2 Different types of inorganic material used for the synthesis of Hybrid Nano-bio assemblies (K2, K3, K4)
- 2.3 Analytical applications of Nano in Biology and Nano probes (K3, K4)
- 2.4 A new methodology in medical diagnostics and biotechnology (K4)
- 2.5 Current status of Nano biotechnology (K3, K4)
- 2.6 Future prospective of Nano biology and Nano sensors (K2, K3, K4)

### **Unit III:**

- 3.1 Development of Nano medicines and Nano systems (K3, K4)
- 3.2 Protocols for Nano drug administration (K3, K5)
- 3.3 Materials used in diagnostics and therapeutic applications of nanotechnology (K3, K4)
- 3.4 Molecular Nano mechanics (K3, K4)
- 3.5 Molecular devices in Nanotribology (K2, K3, K4)
- 3.6 Applications of Nanotribology (K3, K4)

### **Unit IV:**

- 4.1 Molecular and cellular biology applications (K2, K3, K4)
- 4.2 2-D electrophoresis (K2, K3)
- 4.3 Mass spectrophotometer of proteins (K3, K4)
- 4.4 Protein Microarrays -Fabrication-Fluorescence detection (K2, K3)
- 4.5 Binding assays and Immunosensors (K3, K4)
- 4.6 Integrated Nano biotechnology systems (K2, K3, K4)

### **Unit V:**

- 5.1 Use of Bacteria, Fungi in Nanoparticle synthesis (K3, K4)
- 5.2 Actinomycetes for Nanoparticle synthesis (K3, K4)
- 5.3 Magneto tactic Bacteria for Natural synthesis of Magnetic Nanoparticles (K2, K3, K4)
- 5.4 Viruses as components for the formation of Nanostructured Materials (K4)
- 5.5 Process and applications of Nanostructured materials (K3, K4)
- 5.6 Role of plants in Nanoparticle synthesis (K2, K3, K4)

### **]Recommended Reading:**

1. G. Cao-Nanostructure and Nanomaterial's Synthesis, Properties and Applications-Imperial College Press- 2<sup>nd</sup> Edition,2011
2. G. J. Leggett, R. A .L. Jones-Bio nanotechnology in Nano scale and technology- John Willey &Sons- 3<sup>rd</sup> Edition,2015
3. D.S. Goodsell- Bionanotechnology-John Willey and Sons- 3<sup>rd</sup> Edition,2005
4. 2. H.S. Nalw- Encyclopedia of Nanoscience and Nanotechnology- American scientific publishers- 4<sup>th</sup> Edition, 2004.
5. Robert. A. Freitas-Nano medicine, Vol-II Biocompatibility-CRC Pres-3<sup>rd</sup> Edition, 2003
6. Massimiliano Diventra, Introduction to Nanoscale Science and Technology- 2007
7. Sergey Edward Lyshhevski-Nanoscience and Nanotechnology 4<sup>th</sup> Edition,2005

### **Open Educational Resources (OER):**

1. <https://www.youtube.com/watch?v=irGJ6dmcZfl>
2. <https://www.youtube.com/watch?v=uUDWK4MGcr0>
3. <https://www.youtube.com/watch?v=aFU5Qx-cLu8>
4. <https://www.youtube.com/watch?v=3wFh0z7so8w>
5. <https://www.youtube.com/watch?v=EvqAmrIkV1s>

## INDEPENDENT ELECTIVE III B: STEM CELL TECHNOLOGY

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks 100
II/III	PIBCF20	Stem Cell Technology	Theory	Independent elective	-	2	40+60=100

### Objectives:

The course gives in depth knowledge on stem cell biology, regulation of stem cell differentiation, tools to study and its utilization in treating various disorders

### Course Outcomes (CO):

On completion of the course, the students will be able to;

1. Relate the importance of stem cell therapy
2. Apply the concept of stem cell development
3. Analyze the importance of ethics in stem cell and gene therapy
4. Use hematopoietic stem cells in treating blood related disorders and diseases
5. Identify the importance of various stem cells in therapeutic applications

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	M	H	H	M	H
CO 2	M	H	L	M	M	H
CO 3	M	M	M	H	H	M
CO 4	L	M	L	M	L	M
CO 5	L	H	M	M	L	L
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	M	H	H	M	H
CO 2	M	L	M	M	M	H
CO 3	L	M	M	H	H	L
CO 4	H	H	L	H	L	M
CO 5	L	H	M	M	H	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

### Unit I:

- 1.1 Stem cell- Introduction, definition, properties of stem cell -self renewal, clonality and plasticity (K1, K2)
- 1.2 Proliferation, culture of stem cells (K1, K2)
- 1.3 Classification of stem cell (K1, K2)
- 1.4 Sources of stem cell-Fetus and various adult tissues (K1, K2)

- 1.5 Advantages of stem cell, medical applications of stem cells (K1, K2)
- 1.6 Cryopreservation of stem cells – Conventional slow- freezing method and Vitrification method. (K1, K2, K3)

### **Unit II:**

- 2.1 Stem cell and their development potentials. (K1, K2)
- 2.2 Xenofree derivation of stem cells- Alternative feeder cells and feeder free culture. (K1, K2)
- 2.3. Blastocyst culture- Various stages of embryonic development. In vitro fertilization. (K1, K2, K3)
- 2.4 In vivo and invitro differentiation of stem cells. (K1, K2, K3)
- 2.5 Pluripotent nature of stem cell- Extrinsic and intrinsic factors, Karyotyping. (K1, K2, k3, K4)
- 2.6 Expression of cell surface markers. (K1, K2, K3, K4)

### **Unit III:**

- 3.1 Gene Therapy: Introduction, History and evolution of Gene therapy, optimal disease targets. (K1, K2)
- 3.2 Failures and successes with gene therapy and future prospects. (K1, K2)
- 3.3 Genetic Perspectives for Gene Therapy, Gene Delivery methods: Viral vectors and Non-viral Vectors (K1, K2)
- 3.4 Therapeutic cloning strategies, derivation and propagation of human embryonic stem cells. (K1, K2, K3)
- 3.5 Reproductive cloning by SCNT. Use of SCNT. Limitations of cloning – Hurdles to improve the efficiency of therapeutic cloning. (K1, K2, K5)
- 3.6 Stem cell research and ethics – translational medicine ethics. (K1, K2, K3)

### **Unit IV:**

- 4.1 Hematopoietic stem cells (HSC) - Basics, Development and Regulation of HSC. (K1, K2)
- 4.2 Clinical Application of HSC – Gene Therapy – using haematopoietic stem cells HSC for Leukemia. (K1, K2)
- 4.3 Mesenchymal stem cells (MSC) - Differentiation and Identification. (K1, K2, K3)
- 4.4 Characteristics of mesenchymal stem cells. (K1, K2)
- 4.5 Clinical applications of stem cells. Stem cells and regenerative medicine. (K1, K2)
- 4.6 Ips –induced pluripotent stem cells. (K1, K2)

### **Unit V:**

- 5.1 Skeletal Muscle Stem Cells – Development and functions. (K1, K2)
- 5.2 Liver stem cells – Organization and functions. Tumor stem cells – Basics differences and Similarities of cancer stem cells and stem cells. (K1, K2)
- 5.3 Cancer stem cell signaling – NOTCH pathway. (K1, K2)
- 5.4 Canonical Wnt signaling pathways in hematopoietic stem cells. (K1, K2, K5)

5.5 Stem cell therapies in animal models. (K1, K2)

5.6 Mammary stem cells – intestinal stem cells -keratinocyte stem cells of cornea (K1, K2)

**Textbooks:**

1.Prasad.S. Koka-Stem cell Research-Nova Science Publishers, 2004

2.Nandhini G-Stem cells-Jaypee Brothers Medical Publishers, 2011

**References:**

1.Robert Lanza-Essential of Stem cells Biology-2<sup>nd</sup> Edition, 2009

2.Mehmet.R. Topcul-Stem cells in cell therapy and Regenerative medicine-OMICS international publications, 2018

3.Christine Mummery-Stem Cells-Academic press-2<sup>nd</sup> Edition, 2014

4.Jonathan M..W.Slack-The science of stem cells-John Willey & Sons, 2017

5.Nibedita Lenka-Pluripotent Stem cells-BOD publishers, 2013

**Open Educational Resources (OER)**

1. <https://youtu.be/IuLGOhGjFCA>

2. <https://youtu.be/h3QDqsM1ZFM>

3. <https://youtu.be/SE7Fi8jM8ho>

4. <https://youtu.be/fR661sBqINM>

5. <https://youtu.be/ZamfqFfcnEI>

## INDEPENDENT ELECTIVE IV A: PSYCHOLOGY

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
II / IV	PIBCG20	Psychology	Theory	Independent elective	-	2	40+60=100

### Objectives:

The course is aimed to enhance the psychological skills for the students to acquire factual knowledge and ability to conceptualize and apply in their life.

### Course Outcome (CO)

1. Apply the principles of psychology in day-to-day life for a better understanding of oneself and others.
2. Compare and Contrast the biological basis of memory and forgetting.
3. Describe Language acquisition and the role Language plays in Communication and Thought.
4. Recognize the importance of Learning and Motivation.
5. Critically evaluate the fundamental processes underlying human behavior.

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	M	M	L	M	M
CO 2	H	M	L	M	H	L
CO 3	M	H	M	M	H	M
CO 4	M	H	M	L	M	L
CO 5	H	H	L	H	H	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	H	M	M	L	H	M
CO 2	H	L	L	M	H	L
CO 3	H	H	M	M	H	L
CO 4	H	H	M	H	H	H
CO 5	H	H	L	H	H	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

### Unit I:

- 1.1 Psychology - Definition and Origin (K2)
- 1.2 Nature and Scope of Psychology (K2)
- 1.3 Psychology as a Science (K2)
- 1.4 Specialties in Psychology (K2)
- 1.5 Perspectives in Psychology (K2)
- 1.6 Goals of Psychology (K2)

### Unit II:

- 2.1 Methods of assessment in Psychology – Questionnaire (K2, K3, K4, K6)

- 2.2 Memory – Stages in memory (K2, K3)
- 2.3 The modal model of memory (K2, K3)
- 2.4 Forgetting – Types (K2)
- 2.5 Common causes of forgetfulness (K2)
- 2.6 Memory disorder (K2)

**Unit III:**

- 3.1 Basic elements of thought (K2, K3)
- 3.2 Types of Concept and Concept formation (K2)
- 3.3 Reasoning – Types, Decision making and problem solving (K2, K3)
- 3.4 Creative thinking – Nature and Characteristics (K2, K3)
- 3.5 Artificial Intelligence (K2, K3)
- 3.6 Language – Nature and Development of Language (K2, K3, K4, K5)

**Unit IV:**

- 4.1 Learning – Nature (K2, K3)
- 4.2 Classical Conditioning – Principle and Applications (K2, K3, K4, K5)
- 4.3 Operant Conditioning – Principle and Applications (K2, K3, K4, K5)
- 4.4 Biological factors in Learning (K2, K3)
- 4.5 Basic Concepts of Motivation (K2, K3)
- 4.6 Indicators of Motivation (K2, K3)

**Unit V:**

- 5.1 Emotion – Components of Emotion. (K2, K3)
- 5.2 Characteristics and Functions of Emotion (K2, K3, K5)
- 5.3 Physiology of Emotion – Expression and Control (K2, K3, K5)
- 5.4 Personality – Definition – Types (K1, K2, K3)
- 5.5 Assessment of Personality (K2, K3, K4)
- 5.6 States of Consciousness (K2)

**[Knowledge Level: K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create]**

**Recommended Reading:**

- 1. Baron .R.A - Psychology - Pearson
- 2. Lahey .B. B - Psychology: An Introduction - Tata Mc Graw Hill – 10<sup>th</sup> Edition, 2008
- 3. Feldman .R. S - Understanding Psychology - Tata Mc Graw Hill– 14<sup>th</sup> Edition, 2019
- 4. Bootzin, R. R., Bower, G. H., Crocker, J., & Hall, E - Psychology Today: An Introduction - Mc Graw Hill.
- 5. Balachandran, M - Psychology for Nursing Students - Maanas
- 6. Parameshwaran, E. G. & Beena, C - An Invitation to Psychology – 1<sup>st</sup> Edition, 2016 - Neelkamal.

**Open Educational Resources (OER)**

- 1. <https://youtu.be/H3BGRuqRceU>
- 2. <https://youtu.be/yuZAUJbjgLU>
- 3. <https://youtu.be/Z8Duz6MzB1U>
- 4. <https://youtu.be/H6LEcM0E0io>
- 5. <https://youtu.be/NXcWZnQPUXw>



## INDEPENDENT ELECTIVE IV B: ENTREPRENEURIAL BIOCHEMISTRY

Year/ Sem	Course Code	Title of the Course	Course Type	Course Category	H/W	Credits	Marks
II / IV	PIBCH20	Entrepreneurial Biochemistry	Theory	Independent elective	-	2	40+60=100

### Objectives:

The course provides detailed knowledge on ideas, opportunities and components necessary for bio-entrepreneurship.

### Course Outcome (CO):

On completion of the course, the students will be able to;

1. Describe the dynamic role of entrepreneurship and small business.
2. Identify and implement the role of entrepreneur towards society.
3. Create and explain innovative business ideas and market opportunities.
4. Generate bio-entrepreneurship and describe its components and forms.
5. Develop and validate skills needed to run a business successfully.

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	H	L	M	H	H	M
CO 2	H	M	L	L	H	H
CO 3	M	H	M	H	M	L
CO 4	L	M	H	M	L	M
CO 5	M	L	M	H	L	M
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

CO / PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	L	M	M	H	H	L
CO 2	H	H	H	L	M	H
CO 3	M	M	L	M	H	M
CO 4	H	H	H	M	L	L
CO 5	L	L	M	H	L	H
<b>H- High (3), M-Medium (2), L-Low (1)</b>						

### Unit I:

- 1.1 Entrepreneurship - concept - Need and importance (K1, K2, K3)
- 1.2 Entrepreneurship in economic growth (K1, K2, K3)
- 1.3 Factors affecting Entrepreneurship (K1, K2, K4)
- 1.4 Entrepreneurship journey: Self assessment of Qualities, Skills, Resources and Dreams (K1, K2, K3, K4, K5)
- 1.5 Entrepreneurial values- attitudes and motivation (K1, K2, K3, K4)

1.6 Challenges faced by women in entrepreneurship. (K2, K4)

**Unit II:**

2.1 Difference between Entrepreneur and Intrapreneur. (K1, K2)

2.2 Social Entrepreneurship – Concept and Importance (K2, K3, K4, K6)

2.3 Role of society and family in the growth of an entrepreneur (K2, K3, K4)

2.4 Role of technology / social media in creating new support structure for promoting entrepreneurship (K1, K2, K3, K4)

2.5 Feasibility study and Opportunity assessment - Managerial and Locational feasibility (K2, K3, K4, K5)

2.6 Market: Traditional and E-commerce concept. (K1, K2, K3, K4, K5, K6)

**Unit III:**

3.1 Business plan preparation and Execution (K1, K2, K3, K4, K6)

3.2 Content of a Business plan – Project Report (K1, K2, K3, K4)

3.3 Role of the medical laboratory technician (K1, K2, K3)

3.4 Introduction to Hematology (K1, K2, K3)

3.5 Introduction to Clinical Pathology (K1, K2, K3)

3.6 Introduction to Histopathology (K1, K2, K3)

**Unit IV:**

4.1 Agri-clinic – Hybrid seeds: overview (K1, K2, K3)

4.2 Vermi compost -Biopesticide manufacturing: overview (K1, K2, K3)

4.3 Horticulture Crops: overview (K1, K2, K3)

4.4 Food processing: overview (K1, K2, K3)

4.5 Value addition of food products (K1, K2, K3)

4.6 Livestock production–Sericulture: overview (K1, K2, K3)

**Unit V:**

5.1 Risk factor - Types of Business risk (K1, K2, K3)

5.2 Financial planning (K1, K2, K3, K4)

5.3 Developing Marketing Strategies – Franchising, Trade mark registration – Patent registration (K1, K2, K3, K6)

5.4 Entrepreneurship support Institution and Schemes – MSME – NABARD – KVIC – DIC, NSIC, Support to Training and Employment Programme for Women (STEP) (K1, K2, K3)

5.5 Biotechnology Industry Research Assistance Council (BIARC) Start up India - Make in India. (K1, K2, K3)

5.6 Success stories of Entrepreneurs. (K1, K2)

**Recommended Reading:**

1. Bygrave W., & Zacharakis, A –Entrepreneurship - Wiley - 4<sup>th</sup> Edition, 2017

2. Donald F. Kuratko -Entrepreneurship – Theory, Process and Practice - Cengage learning - 9<sup>th</sup> Edition, 2014
3. Khanka S.S - Entrepreneurial Development - Margham Publication - 1<sup>st</sup> Edition, 2016
4. Rajeev Roy - Entrepreneurship - Oxford University Press - 2<sup>nd</sup> Edition,2011
5. HisrichRD, Peters MP - Entrepreneurship –Tata McGraw – Hill - 8<sup>th</sup> Edition, 2013
6. Eric, Reis The startup way: How Entrepreneurial Management Transform Culture and Devices growth, 2017

### **Open Educational Resources (OER)**

1. <https://www.investopedia.com/terms/e/entrepreneur.asp>
2. <https://youtu.be/1ecKK3S8DOE>
3. <https://youtu.be/Fqch5OrUPvA>
4. [https://youtu.be/rDMD\\_tH8IFI](https://youtu.be/rDMD_tH8IFI)
5. <https://msme.gov.in/all-schemes>
6. [www.businessmanagementideas.com](http://www.businessmanagementideas.com)

**FOCUS: HUMAN VALUE (NEEDS)**

**PG ELECTRONIC MEDIA**

**SEMESTER I**

**PCEMA20 - MASS COMMUNICATION AND JOURNALISM**

<b>Year: I</b>	<b>Course Code:</b>	<b>Title of the Course:</b>	<b>Course Type:</b>	<b>Course Category:</b>	<b>H/W</b>	<b>Credits</b>	<b>Marks</b>
<b>Sem: I</b>	PCEMA20	Mass Communication And Journalism	Theory	Core	5	4	100

**Course Objective**

To introduce the broad field of mass communication and journalism to students including the models, theories and ethics in the field of media

**Course Outcomes (CO)**

CO	PSO						able to
	1	2	3	4	5	6	
CO1: Review the Communication and	H	H	H	H	H	M	Basics of Mass Culture.
CO2: Analyze and Western Models and Communication.							Understand the Theories of
CO3: Acquiring Knowledge about the inception of Journalism.							
CO4: Analyse the Journalistic Values and Various News Paper Organizations.							
CO5: Evaluate the Concept of Journalistic Writing and Editing.							

<b>CO2</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>
<b>CO3</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>M</b>
<b>CO4</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>
<b>CO5</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>

**(Low- L, Medium - M, High - H)**

## **Course Syllabus**

### **Unit I: Communication Basics**

**(15 Hours)**

- 1.1 Communication, Need of Communication (K1, K2)
- 1.2 Functions of Communication, Levels of Communication, Patterns of Communication (K1, K2, K3)
- 1.3 The Mass concept, Mass Communication process, the Mass Audience (K1, K2, K3, K4)
- 1.4 Mass Culture and popular culture (K3, K4)
- 1.5 Barriers of Communication (K3, K4, K5)
- 1.6 Media democracy (K5, K6)

### **Unit II: Models of Communication**

**(15 Hours)**

- 2.1 Transmission model, Ritual or Expressive model (K1, K2)
- 2.2 Publicity model., Reception model, Lass well Model (K1, K2, K3)
- 2.3 Shannon & Weaver model, Osgood and Schramm Circular model. (K2, K3, K4)
- 2.4 Two Steps flow model, Westley and Maclean model (K3, K4, K5)
- 2.5 Agenda Setting model, Spiral of Silence model (K3, K4, K5, K6)
- 2.6 Indian theories of communication (K4, K5, K6)

**Unit III: Basics of Journalism** (15 Hours)

- 3.1 Basics of writing and editing (K1, K2)
- 3.2 News values. (K1, K2, K3)
- 3.3 Sources of news and confidentiality (K2, K3, K4)
- 3.4 Makeup, Newspaper organisation (K2, K3, K4)
- 3.5 Press council (K3, K4, K5, K6)
- 3.6 Press commission (K4, K5, K6)

**Unit IV: Journalistic Principles** (15 Hours)

- 4.1 Journalism and the concept of news (K1, K2)
- 4.2 Journalism principles(K1, K2, K3)
- 4.3 Brief history of press in the world, India and Tamilnadu (K2, K3, K4)
- 4.4 Online Journalism (K2, K4)
- 4.5 Tabloid Journalism (K2, K4, K5, K6)
- 4.6 Yellow Journalism (K3, K4, K5, K6)

**Unit V:Journalistic Skills** (15 Hours)

- 5.1 Art of writing a new paper story (K1, K2, K3)
- 5.2 Inverted pyramid style(K2, K3, K4)
- 5.3 Feature writing (K1, K3, K4, K5)
- 5.4 Qualities of a Reporter, (K2, K3, K4)
- 5.5 Role of Editor (K2, K4, K5, K6)
- 5.6 Copy flow, Proof reading (K4, K5, K6)

**Books for Study and Reference:**

1. Mc Quail Denis – Mass Communication Theory 5<sup>th</sup> Edition
2. Keval J Kumar – Mass Communication in India 3<sup>rd</sup> Edition – Jaico publication 1982
3. Arthur Asa Berger-Essentials of Mass Communication Theory-Sage Publication 2000
4. Alfred Laurence Lorenz John Vivian–News Reporting and Writing–Pearson education – 2005.
5. D.S. Mehta – Mass Communication and Journalism in India–Allied Publication- 2003
6. T Rejshekar – Journalism Ethics and Objectives -Sonali Publication – 2009
7. RangaswamyParthasarthy – Journalism in India – Sterling Publication -Delhi – 2005
8. Ahuja B.N. - Concise Course In Reporting For Newspaper Magazine Radio And television – Surjeet Publication, Delhi - 1988

**Web Reference:**

**SEMESTER I**

**PEEMB20 - ELECTIVE – I B: BROADCAST JOURNALISM**

<b>Year: I</b>	<b>Course Code:</b>	<b>Title of the Course:</b>	<b>Course Type:</b>	<b>Course Category:</b>	<b>H/W</b>	<b>Credits</b>	<b>Marks</b>
<b>Sem: I</b>	PEEMB20	Broadcast Journalism	theory	Elective	5	4	100

**Course Objective**

To learn in-depth about the various fields of broadcast journalism and the best practices

**Course Outcomes(CO)**

The Learners will be able to

CO1:Discussing the basic concepts of Journalism.

CO2: Analysing the ethical codes and ethical standards of journalism in the contemporary media.

CO3: Acquiring in depth knowledge in television news process.

CO4: Adapting the techniques of news writing process for a radio medium.

CO5: Evaluating the procedures of Broadcast news

CO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	H	H	M
CO2	H	H	H	H	H	H
CO3	H	H	H	H	H	H
CO4	H	H	H	H	H	H
CO5	H	H	M	H	H	H

legal aspects and launching the channel.

**(Low- L, Medium - M, High - H)**

**Course Syllabus**

**Unit I: Journalism Basics**

**(15 hours)**

- 1.1. Introduction to journalism, Journalism basics. (K2, K3, K4)
- 1.2. Sources of News.(K2, K3, K4, K5)
- 1.3. Editorial department. (K3, K4, K5, K6)
- 1.4. What is News? News values. (K2, K3, K4, K5)
- 1.5. Construction of News, News frames. (K3, K4, K5)
- 1.6. News selection. (K4, K5, K6)

## **Unit II:Journalism Ethics**

**(15 hours)**

- 2.1. Journalism Ethics & standards, Code of conduct. (K3, K4, K5)
- 2.2. Press council. (K3, K4, K5)
- 2.3. The journalist in the society. (K3, K4, K5)
- 2.4. Critical review of media, Democracy & Journalism. (K3, K4, K5, K6)
- 2.5. The growing importance of the press. (K4, K5, K6)
- 2.6. Current issues of journalism.(K4, K5, K6)

## **Unit III: Television News**

**(15 hours)**

- 3.1 TV Newsroom. (K2, K3, K4)
- 3.2 TV Rundowns, TV news gathering. (K3, K4, K5)
- 3.3 TV news writing, TV features. (K4, K5, K6)
- 3.4 TV documentaries writing & shooting. (K4, K5, K6)
- 3.5 TV interviews. (K4,K5, K6)
- 3.6 Special TV programs- News, Features, Social, Cultural, Educational, Sports, Women's, Children's, Matching visuals with stories.(K4, K5, K6)

## **Unit IV: Radio News**

**(15 hours)**

- 4.1 Reporting for radio. (K2, K3, K4)
- 4.2 News writing, News gathering. (K3, K4, K5)
- 4.3 Radio rundowns. (K3, K4, K5)
- 4.4 Use of tape recorder, Field spot. (K4, K5, K6)
- 4.5 Special reporting, Radio talks, Radio interviews. (K3, K4, K5)
- 4.6 Radio discussions, Radio conferences, Bridge radio.(K4, K5, K6)

## **Unit V: Broadcasting Journalism**

**(15 hours)**

- 5.1 Broadcasting – Business, Legal, Financial, Commercial. (K3, K4, K5)
- 5.2 Aspects, Public, Private & global radio systems and their working program costing. (K3, K4, K5)
- 5.3 Budget & marketing. (K4, K5, K6)
- 5.4 Audience research. (K4, K5, K6)
- 5.5 TRPs in radio & TV. (K4, K5, K6)



5.6 Online journalism. (K4, K5, K6)

### Books for Study & Reference

1. Hillard - Writing for Television, Radio & New media, Seventh Edition, 2011.
2. Tony Harcup - Journalism principles & practice, Second Edition, 2009
3. Awasthy, G.C. - Broadcasting in India, Allied Publishers, 2007

### **SEMESTER II**

#### **PCEMH20 - MEDIA ANALYSIS AND TECHNIQUES**

<b>Year: I</b> <b>Sem: II</b>	<b>Course Code:</b> PCEMH20	<b>Title of the Course:</b> Media Analysis & Techniques	<b>Course Type:</b> Theory	<b>Course Category:</b> Core	<b>H/W</b> 5	<b>Credits</b> 4	<b>Marks</b> 100
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### Course

CO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	H	H	H

### Objective

To introduce the basic media analysis techniques with practice applications in order to develop a critical perspective of media texts.

### Course Outcomes(CO)

The Learners will be able to

**CO1:** Explain the Semiotic Analysis of Media.

**CO2:** Acquiring Knowledge about Marxist Analysis

**CO3:** Analysing the Psychoanalytic Criticism

**CO4:** Evaluating the Feminist Analysis.

**CO5:** Examine the Concept of Media Ethics and Laws.

<b>CO2</b>	H	H	H	H	H	H
<b>CO3</b>	H	H	H	H	H	H
<b>CO4</b>	H	H	H	H	H	H
<b>CO5</b>	H	H	M	H	H	H

**(Low- L, Medium - M, High - H)**

## **Course Syllabus**

### **Unit I: Semiotic Analysis**

**(15 hours)**

- 1.1 Problem of meaning, social aspects of semiotics (K1, K3)
- 1.2 Signs, Signifiers, Signified (K2, K4, K5)
- 1.3 Hyper reality, Connotation and Denotation (K3, K4, K5, K6)
- 1.4 Syntagmatic analysis, Paradigmatic analysis (K2, K4, K5)
- 1.5 Application: Murderers on the Orient Express, Football (K3, K4, K5)
- 1.6 Application: Murderers on the Orient Express, Football(cont.) (K2, K3, K4, K5, K6)

### **Unit II: Marxist Analysis**

**(15 hours)**

- 2.1 Materialism, The base and the super structure (K2, K3, K4)
- 2.2 False consciousness and ideology (K2, K3, K4, K5)
- 2.3 The Frankfurt school, Class conflict, Hegemony (K2, K4, K5)
- 2.4 Marxist criticism in postmodern world, Critical Theory (K2, K3, K4, K5, K6)
- 2.5 Social learning theory, Social role theory, Cognitive dissonance theory (K2, K4, K5)
- 2.6 Application: Fiji Perfume “Snake” advertisement (K4, K5, K6)

### **Unit III: Psychoanalytic criticism**

**(15 hours)**

- 3.1 The unconscious (K1, K2)
- 3.2 Sexuality (K2, K3)
- 3.3 Oedipus complex (K1, K2, K3, K4)
- 3.4 Id, ego, Super ego (K2, K3, K4)
- 3.5 Jungian Psychoanalytic theory (K2, K3, K4, K5, K6)
- 3.6 Application: Analyzing sexuality, violence and additive elements of video games (K3, K4, K5, K6)

**Unit IV: Feminist Analysis****(15 hours)**

- 4.1 Identity, position and authority (K1, K3, K4)
- 4.2 Social conception of knowledge, Phallogocentric theory (K2, K3, K4)
- 4.3 Liberal feminism, Social feminism, Radical feminism (K3, K4, K5)
- 4.4 Marxist feminism, Postmodern feminism (K2, K4, K5)
- 4.5 The male gaze and the female spectator (K3, K4, K5, K6)
- 4.6 Application: Analysing feminist perspectives including male gaze based on any movie (K4, K5, K6)

**Unit V: Sociological and Discourse Analysis****(15 hours)**

- 5.1 Sociological Analysis: Alienation, Anomie (K4, K5, K6)
- 5.2 Bureaucracy (K2, K3)
- 5.3 Discourse analysis: Spoken and Written discourse (K2, K4, K5)
- 5.4 Styles and written discourse, Prisma techniques (K3, K4, K5, K6)
- 5.5 meta-Analysis, Business Analysis (K3, K4, K5)
- 5.6 Critical Review (K5, K6)

**Books for Study and Reference:**

1. Arthur Asa Berger , Media Analysis Techniques 4th and 6<sup>th</sup> Edition, Sage publications, 2012
2. Meire Gillespie and Jason Tonymbee, Analysing Media Texts, Tata-McGraw Hill, 2010
3. Arthur Asa Berger, Media and Communication Research Methods, Sage publications, 2000
4. Angharad N. Valdivia, A Companion to Media Studies, Blackwell, 2003
5. Mary Celeste Kearney, The Gender and the Media Reader, Routledge, 2012.
6. Paranjy Guha Thakurta - Media Ethics, 2nd Edition - Oxford, 2012.
7. Devesh Kishore, Ganga Sagar Singh - Media Law, Har-Anand Publication, 2012.
8. Clifford, Kim, Mark, Kathy and Robert - Media Ethics, 7th Edition - Pearson Education, 2005.
9. Roger S. Sadler - Electronic Media Law - Sage Publications, 2005.
10. Monaco, J. ,How to read a Film: Movies, Media, Multimedia, Oxford University Press, London, 2000
11. Butler J., Gender Trouble, Rutledge, London, 1992.

**SEMESTER II****PEEMC20 - ELECTIVE II A: INTER-CULTURAL COMMUNICATION**

Year: I	Course Code:	Title of the Course:	Course Type:	Course Category:	H/W	Credits	Marks
Sem: II	PEEMC20	Inter-Cultural Communication	Theory	Elective	5	4	100

**Course Objective:**

To initiate students to the challenges in global communication in the age of cross-culture communication

**Course Objective:**

- To initiate students to the challenges in global communication in the age of cross-culture communication

**Course Outcomes(CO)**

The Learners will be able to

**CO1:** Discuss the Concept of Inter Culture Communication.

**CO2:** Acquiring Knowledge in the aspects of inter cultural Business Communication.

**CO3:** Analysing the Concepts of Intra Cultural Communication.

**CO4:** Acquiring the Knowledge about Global Communication

**CO5:** Evaluating the Relationship Between Intercultural Communications in News Media Production.

CO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	H	H	M
CO2	H	H	H	H	H	H
CO3	H	H	H	H	H	M
CO4	H	H	H	H	H	H
CO5	H	M	H	H	H	H

(Low- L, Medium - M, High - H)

**Course Syllabus:****Unit I: Introduction to ICC**

(15 hours)

1.1. Introduction to Communication.(K2, K3, K4)

- 1.2. Culture and Inter-cultural Communication.(K3, K4)
- 1.3. Dimensions of culture.(K2, K3, K4)
- 1.4. Enculturation.(K2, K3, K4)
- 1.5. Acculturation. (K2, K3, K4)
- 1.6. Cultural barriers, Relevance of Inter-cultural communication to Journalism and Mass communication. (K3, K4, K5, K6)

**Unit II: Inter-cultural Business Communication (15 hours)**

- 2.1. Work attitudes.(K1,K2, K3)
- 2.2. Individualism VS Collectivism.(K2, K3, K4)
- 2.3. Global etiquette in business introductions. (K2, K4, K5)
- 2.4. Electronic communication, and travel and dining. (K3, K4)
- 2.5. Business and social customs. (K2, K3, K4)
- 2.6. Cultural difference in communication. (K2, K4, K5)

**Unit III: Intra-cultural Communication (15 hours)**

- 3.1. Inter-cultural versus Intra-cultural communication.(K1,K2, K3,K5)
- 3.2. Nature and Characteristics. (K2, K3, K4)
- 3.3. Indian and South Indian contexts of Inter-cultural communication.(K2, K3, K4)
- 3.4. Role of mass media in bridging cultural divides.(K2, K4, K5)
- 3.5. Cultural Identities and loss of cultural identity. (K2, K3, K4)
- 3.6. Problem of ethnocentrism. (K2, K3, K4)

**Unit IV: Global Communication (15 hours)**

- 4.1. Global communication. (K1,K2, K3)
- 4.2. Growth of International Communication.(K2, K3, K4)
- 4.3. Cultural shock, Language and Inter-cultural communication. (K2, K3, K4)
- 4.4. High and low context languages.(K2, K3, K4)
- 4.5. Subjective interpretation.(K1,K2, K3)
- 4.6. Language and cultural interaction, Cross Cultural Communication. (K2, K4, K5)

**Unit V: ICC and News (15 hours)**

- 5.1. Implications of inter cultural barriers in News media production.(K1,K2, K3)
- 5.2. Public sphere, LPG.(K2, K3, K4)
- 5.3. Cultural hegemony. (K2, K3, K4)
- 5.4. Influence in media production.(K3, K4, K5, K6)
- 5.4. International news flow patterns.(K2, K4, K5)
- 5.6. Offline and online. (K1,K2, K3,K5)

**Books for Study and Reference:**

1. Stanley J .Baran – Introduction to Mass Communication – Media Literacy and Culture, Tata McGraw-Hill, 2010.
2. Yahya R. Kamalipour – Global Communication – Wadsworth Thomson Learning, 2007.

3. William B. Gudykunst – Theorizing about Intercultural Communication, Sage Publication, 2005.
4. Hamid Mowlana – Global Communication in Transition – Sage Publications, 1996.

***SEMESTER III***

***PCEMM20 - PUBLIC RELATIONS AND CORPORATE COMMUNICATION***

<b>Year: II</b>	<b>Course Code:</b>	<b>Title of the Course:</b>	<b>Course Type:</b>	<b>Course Category:</b>	<b>H/W</b>	<b>Credits</b>	<b>Marks</b>
<b>Sem: III</b>	PCEMM20	Public Relations and Corporate Communication	Theory	Core	5	4	100

**Course Objective:**

To initiate students to the field of Public Relations and Corporate Communication by giving them a background, trends and techniques in PR

**Course Outcomes (CO)**

**The Learners will be able to**

CO1: Review the concepts of public relations and different models of PR.

CO2: Evaluating the functions of PR and PR Writing.

CO3: Analysing the role of PR in press and other media relations.

CO4: Acquiring the knowledge on corporate communication.

CO5: Elaborate the PR profession and PR in the digital Era.

CO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	H	H	M
CO2	H	H	H	H	H	H
CO3	H	H	H	H	H	H
CO4	H	H	H	H	H	H
CO5	H	H	M	H	H	H

(Low- L, Medium - M, High - H)

### Course Syllabus:

#### Unit I: Introduction to Public Relations (15 hours)

- 1.1 Brief History of Public Relations – Definition of PR (K2, K3)
- 1.2 Public relations and Communication (K2, K3, K4)
- 1.3 Functions of Public Relations (K4, K5)
- 1.4 Benefits of PR - Models of PR – PR and Politics (K3, K4, K5)
- 1.5 Government PR – The Lobby – Spin and Image Management (K4, K5, K6)
- 1.6 Political Communication and the Public Sphere – Triads of PR (K3, K4, K5)

#### Unit II: Functions of PR (15 hours)

- 2.1 Publics – Internal and External(K3, K4)
- 2.2 Tools and activities for Internal PR(K4, K5)
- 2.3 Necessity and Goals of Employee Communication (K3, K4, K5)
- 2.4 Tools for External PR, (K2, K3, K4)
- 2.5 PR Writing, writing speeches, scripts, features, Newsletters, annual reports, direct mail, brochures, proposals (K3, K4, K5)
- 2.6 Writing for the web (K4, K5, K6)

#### Unit III: Press and PR (15 hours)

- 3.1 Press Releases and its Types (K2, K3, K4)

- 3.2 Writing Tips and Distribution(K3, K4, K5)
- 3.3 Audio News Release, Video News Release, Press Conferences (K3, K4, K5)
- 3.4 Prime-time/ National, Photo-op and Joint PC (K2, K3, K4)
- 3.5 Press Briefing, Embargoes, Background Briefings (K3, K4, K5)
- 3.6 Media Relations (K3, K4, K5)

**Unit IV: Corporate Communication (15 hours)**

- 4.1 Corporate Communication (K3, K4)
- 4.2 Corporate Image and Identity (K3, K4, K5)
- 4.3 House Magazines and Newsletters (K3, K4, K5)
- 4.4 Risk, Issues and Crisis Management (K3, K4, K5, K6)
- 4.5 Corporate Social Responsibility, Corporate Community Involvement and cause-related marketing (K2, K3, K4, K5)
- 4.6 Business to Business PR, Financial PR (K4, K5, K6)

**Unit V: Digital PR and PR Profession (15 hours)**

- 5.1 PR in the Digital Era (K2, K3, K4)
- 5.2 Revolution or evolution (K2, K3, K4)
- 5.3 Social media influences, writing for websites (K4, K5, K6)
- 5.4 Futures challenges for PR and Corporate Communication (K4, K5, K6)
- 5.5 PR Agencies, Structure and Hierarchy, Professional Organisations (K5, K6)
- 5.6 Ethics in PR practice and writing, Codes of Practice (K4, K5, K6)

**Books for Study and Reference:**

1. Alison Theaker - The Public Relations Handbook - Routledge Publishers, 2012.
2. J. V. Vilanilam - Public Relations in India - Sage Publications, 2011.
3. K. M Shrivastava - Public Relations in the Digital Era - Pilgrims Publishing, 2007.
4. Donald Treadwell, Jill B. Treadwell - Public Relations Writing - Sage Publications, 2005.
5. Dr. G.C. Banik - PR and Media Relations - Jaico Publishing House, 2005.
6. Doug Newsom, Bob Carrell - Public Relations Writing Form and Style - Wadsworth, 2001.
7. Scott M. Cutlip, Allen H. Center, Glen M. Broom - Effective Public Relations – Pearson Education, 2000.

**SEMESTER - II**

**PIEMB20 - INDEPENDENT ELECTIVE-ELECTRONIC JOURNALISM**

<b>Year: I</b>	<b>Course Code:</b>	<b>Title of the Course:</b>	<b>Course Type:</b>	<b>Course Category:</b>	<b>H/W</b>	<b>Credits</b>	<b>Marks</b>
<b>Sem: II</b>	PIEMB20	<b>Electronic Journalism</b>	Theory	Independent Elective		2	100



### **Course Objectives:**

To provide the insight knowledge about the electronic news production and Produce the competent journalists and news producers for the current information world.

### **Course Outcomes (CO)**

The Learners will be able to

CO1: Indicating the origin and development of electronic journalism

CO2: Analysing the concept of radio news production and its genres

CO3: Applying the concept of television news production techniques and live news

CO4: Elaborating the features and development of online journalism

CO5: Compiling the technologies used for electronic journalism

<b>CO</b>	<b>PSO</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
<b>CO1</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>M</b>
<b>CO2</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>
<b>CO3</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>
<b>CO4</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>
<b>CO5</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>

**(Low- L, Medium - M, High - H)**

## **Course Syllabus:**

### **Unit I: Introduction to Electronic Journalism**

- 1.1. Origin and Development of Electronic News Broadcasting (K2, K3)
- 1.2. Differences between Print and Electronic Journalism (K3, K4)
- 1.3. Citizen Journalism (K2, K3, K4)
- 1.4. Consumption pattern of news in Television, Radio and Online (K3, K4, K5, K6)
- 1.5. Importance of Sound and visuals (K3, K4)
- 1.6. Emergence of electronic news gathering tools and practice. ( K3, K4, K5, K6)

### **Unit II: Radio News Production**

- 2.1. Basics of Radio News (K2, K3)
- 2.2. Components of News (K3, K4)
- 2.3. Radio news room set-up, Radio News Reporting (K3, K4, K5)
- 2.4. News writing and presentation, Elements of editing, (K3, K4)
- 2.5. Integrating audio bytes (K2, K3)
- 2.6. Radio talks and discussions, radio interviews. (K3, K4, K5, K6)

### **Unit III: Television News Production**

- 3.1. TV News room work process (K3, K4, K5)
- 3.2. Basics of TV News, sources and contacts (K4, K5, K6)
- 3.3. News research and planning, hour glass structure (K4, K5, K6)
- 3.4. TV interviewing techniques (K4, K5, K6)
- 3.5. Piece - to - camera, Process of Live inputs (K3, K4, and K5)
- 3.6. News anchoring. (K3, K4)

### **Unit IV: Online Journalism**

- 4.1. Development of the online news media (K2, K3)

- 4.2. Features of online media: interactivity and hypertextuality, online storytelling (K3, K4, K5)
- 4.3. Presentation with audio recording and editing, photo shooting and editing, slide show, character driven narrative (K4, K5, K6)
- 4.4. Identification of relative stories for hyper linking (K2, K3)
- 4.5. Search engine optimization (SEO) (K2, K3, K4)
- 4.6. User engagement, user generated content, Use of Twitter, Face book, YouTube, Flickr, LinkedIn, blog. (K2, K3, K4, K5, K6)

### **Unit V: Technologies for Electronic Journalism**

- 5.1. Outside Broadcast van and its functions (K2, K3, K4)
- 5.2. Mobile technology and its role in aiding news coverage (K3, K4, K5)
- 5.3. Bi-media reporting (K3, K4)
- 5.4. Convergence newsroom (K4, K5, K6)
- 5.5. Multi-skilling (K4, K5)
- 5.6. Broadcasting software's (K3, K4)

### **Text Books:**

1. Andrew Boyd, Broadcast Journalism, Focal Press, 2007
2. Mitchell Stephens and Beth M. Olson, Broadcast News, Fourth Edition, Thomson Wordsworth, 2005.
3. Eric K. Gormly, Writing and Producing Television News, 2nd Edition, Surjeet Publications, New Delhi, 2005.
4. Singh PP., Jonge De., Hakemulder, Jan 'Broadcast Journalism' – Anmol Publication, New Delhi, India, 2005.

### **References:**

1. Alfred Lawrence Lorenz and John Vivian, News Reporting and Writing, Pearson. 2006
2. Lynette Sheridan Burns, Understanding Journalism, Vistaar Publications, 2006
3. Robert L. Hilliard, Writing for TV, Radio and New Media, Thomson Publications, 2003
4. N.C Pant, Modern Journalism, Kanishka Publishers, 2002
5. R.K. Ravindran, Radio, TV, Broadcast Journalism, Anmol Publications, 2000

### SEMESTER - III

#### PIEMC20 - INDEPENDENT ELCTIVE -WOMEN AND ADVERTISING

<b>Year: II</b>	<b>Course Code:</b>	<b>Title of the Course:</b>	<b>Course Type:</b>	<b>Course Category:</b>	<b>H/W</b>	<b>Credits</b>	<b>Marks</b>
<b>Sem: III</b>	<b>PIEMC20</b>	<b>Women and Advertising</b>	Theory	Independent Elective		2	100

**Course Objective:** To provide the basic understanding about the role of women in the field of advertisement and to develop career opportunities.

#### Course Outcomes(CO)

The Learners will be able to

CO1:Describing the role of women in Advertising

CO2:Analysing the portrayal of women in advertising

CO3:Evaluating the ethical codes of advertising

CO4:Exploring on the women entrepreneurship in India

CO5:Compiling the notable emerging women leaders in Advertising

CO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	H	H	M
CO2	H	H	H	H	H	H
CO3	H	H	H	H	H	H
CO4	H	H	H	H	H	H
CO5	H	M	H	H	H	H

**(Low- L, Medium - M, High - H)**

**Course Syllabus:**

**Unit I: Women in Advertising**

- 1.1. Commoditization of women in advertising (K2, K3, K4)
- 1.2. Commodity Feminism-feminist and Advertising (K3, K4,K5)
- 1.3. Advertisement as gender scripts (K3,K4,K5)
- 1.4. Textually and Mediated Identities (K4.K5)
- 1.5. Representation: Role, Character Traits and body Types (K4,K5,K6)
- 1.6. Trends in Advertisements - Advertising false ideals.(K1, K2, K3, K4, K5, K6)

**Unit II: Projection of Women in Advertisements**

- 2.1. Sexism in advertising (K2, K3)
- 2.2. Female objectification of women (K3, K4)
- 2.3. Women through the lens of commercial advertising (K3, K4, K5)
- 2.4. Women- be sexualized case Study (K4, K5, K6)
- 2.5. Modern Advertisement-women as consumers, women as objects (K3, K4, K5, K6)
- 2.6. Changing the portrayal of women in advertisement in Social transformations.( K2, K3, K4, K5, K6)

**Unit III: Ethics in Advertising**

- 3.1. Ethical issues in advertising (K2, K3, and K4)
- 3.2. NARB-ASCI-ASCI Codes & Guidelines (K2, K3,K4)
- 3.3. Case study on-Decisions by ASCI for unethical Ads(K4,K5,K6)
- 3.4. Laws Governing Advertisements-(K2,K3)
- 3.5. Drugs and cosmetics act 1940, Drugs and Magic Remedies Act 1954, (K4, K5, K6)
- 3.6. Indecent representation of women act 1986, Patent Act 1970, Copy right act 1957,

Trademarks Act 1999.( K2, K3, K4, K5, K6)

#### **Unit IV: Women as Entrepreneurs**

- 4.1. Creative women: Their potential (K2, K3, K4)
- 4.2. Creative women: Their personality (K2, K3, K4)
- 4.3. Creative women: Their Productivity (K2, K3, K4)
- 4.4. Evolution of women entrepreneurship in India (K4, K5, K6)
- 4.5. Skills & requirements for women (K4, K5, K6)
- 4.6. Role of women entrepreneurship in economic development. (K2, K3, K4, K5, K6)

#### **Unit V: Careers in Advertising**

- 5.1. Growth of Advertising Industry in India (K3, K4, K5)
- 5.2. Careers in Advertising- Content Writers, Content Managers, creative development, marketing, (K4, K5, K6)
- 5.3. Management - SEO (Search Engine optimization)(K2,K3,K4)
- 5.4. Digital Media Designer (K3, K4)
- 5.5. Social Media Marketing-(K4, K5, K6)
- 5.6. Emerging women leader and notable women in Advertising field. (K2, K3, K4, K5, K6)

#### **Books for study and Reference:**

1. John Philip Jones- International Advertising: Realities and Myths –Sage Publications,2000
2. Robert Cluley- Essential of advertising –Kogan Publishers, Fenruary,2017.
3. S. N. Murthy, U. Bhojana - Advertising an IMC perspective –Excel Books ,2007.
4. S.A. Chunawalla - Advertising, sales and promotion Management –Himalaya Publishing House, 2006.
5. Frank Jefkins,DanielYadin - Advertising ,4<sup>th</sup> Edition - Pearse Education, 2006
6. J.V. Vilanilam, A.K. Varghese - Advertising Basics: A resource Guide for Beginners- Response Books, 2004.
7. Sandage, Fryburger, Rotzoll-Advertising Theory and Practice,11<sup>th</sup> Edition –AITBS publishers,2004.

8. R.C. Bhatia –Marketing Communication and advertising –Galgotia Publishers,2003
9. John Philip Jones –How Advertising works –Sage publications ,1998
10. Courtland L. Bovee- Advertising Excellence- McGraw hill,1995.

<b>CO</b>	<b>PSO</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>

#### SEMESTER IV

#### PCEMP20 - ELECTRONIC MEDIA MANAGEMENT

Year: II	Course Code:	Title of the Course:	Course Type:	Course Category:	H/W	Credits	Marks
Sem: IV	PCEMP20	Electronic Media Management	Theory	Elective	5	4	100

#### Course Objective:

To offer an in-depth understanding of the working of media organisations and the function and ethics of media professionals in electronic media.

#### Course Outcomes(CO)

The Learners will be able to

**CO1:** Explain the basic responsibilities of media and journalism.

**CO2:** Analysing theories and modern approaches to Management.

**CO3:** Acquiring the knowledge about Human Resources Management.

**CO4:** Evaluating the Marketing strategies of Media Management.

**CO5:** Formulating the Programme budget process of Television and radio

<b>CO1</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>M</b>
<b>CO2</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>
<b>CO3</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>
<b>CO4</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>
<b>CO5</b>	<b>H</b>	<b>M</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>

**(Low- L, Medium - M, High - H)**

## **Course Syllabus**

### ***Unit I: Responsibilities of Media and Journalism*** **(15 hours)**

- 1.1 Historical perspective on media (K2, K3, K4)
- 1.2 Public ownership of media (K3, K4)
- 1.3 New media world(K2, K3, K4)
- 1.4 Managing electronic Media, Television, cable, telecommunication(K3, K4, K5)
- 1.5 Levels of Management, Management skills (K3, K4, K5)
- 1.6 Management function and Management roles (K3, K4, K5)

### **Unit II: Theories in Management** **(15 hours)**

- 2.1 Unionism in media companies (K2, K3, K4)
- 2.2 Approached to managing employees (K3, K4, K5)
- 2.3 Scientific management, Humanistic management. (K3, K4, K5)
- 2.4 Maslow's Hierarchy of needs, Management objectives (K4, K5, K6)
- 2.5 Modern approaches to management – System approaches to Management (K3, K4, K5)
- 2.6 Total quality management (K4, K5, K6)

### **Unit III: Human Resource Management** **(15 hours)**

- 3.1 Leadership practices – exercise of power (K4, K5, K6)
- 3.2 Characteristics of a leader, effective manager (K3, K4, K5)
- 3.3 Personnel management (K4, K5)
- 3.4 Hiring process – Interviewing orientation (K4, K5, K6)
- 3.5 Performance reviews – Legal issues in personal management (K4, K5, K6)
- 3.6 Labour issues: working with unions, other labour laws, structure, communication and personnel (K4, K5, K6)



**Unit IV: Marketing****(15 hours)**

- 4.1 Media Organization – culture and structure (K3, K4, K5)
- 4.2 The ethics of media (K3, K4, K5, K6)
- 4.3 Partnership, corporation, structure of media companies (K3, K4, K5)
- 4.4 Entrepreneurship and managers, traits of entrepreneurship, secrets of business success (K4, K5, K6)
- 4.5 Marketing structure, Market analysis, Marketing strategies (K3, K4, K5, K6)
- 4.6 Sales Management, Promotions as form of marketing (K4, K5)

**Unit V: Programming and Budgeting****(15 hours)**

- 5.1 Radio programming (K2, K3, K4)
- 5.2 Television programming (K3, K4, K5)
- 5.3 Cable programming (K3, K4, K5)
- 5.4 Issues in programming (K2, K3, K4, K5)
- 5.5 Brand development and brand extension(K3, K4, K5, K6)
- 5.6 Budget and planning, Financial analysis (K4, K5, K6)

**Books for Study and Reference:**

1. Dennis F. Herrick – Media Management in the Age of Giants: Business Dynamics of Journalism – Surjeet Publication, 2005.
2. Roger L. Sadha – Electronic Media Law – Sage Publication, 2005.
3. Alan B. Albarra – Management of Electronic Media – Thomson Learning, 2002.
4. John Craft, Frederic Leigh, Donald G. Godray-Electronic Media- Thomson Learning, 2001.

**SEMESTER IV****PCEMQ20 - DEVELOPMENT COMMUNICATION**

<b>Year: II</b>	<b>Course Code:</b>	<b>Title of the Course:</b>	<b>Course Type:</b>	<b>Course Category:</b>	<b>H/W</b>	<b>Credits</b>	<b>Marks</b>
<b>Sem: IV</b>	PCEMQ20	Development Communication	Theory	Core	5	4	100

**Course Objective:**

To enable students to understand the use of media in furthering development of society and the contributions of media professionals in democracy

**Course Outcomes(CO)**

The Learners will be able to

CO1: Review the various approaches for Development communication.

CO2: Analysing the Development communication in the global perspectives.

CO3: Acquiring the knowledge about the key concepts in development communication.

CO4:  
government  
CO5:

CO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	H	H	M
CO2	H	H	H	H	H	H
CO3	H	H	H	H	H	H
CO4	H	H	H	H	H	H
CO5	H	M	H	H	H	H

development

Assessing the policies of  
on development perspectives.  
Evaluating the role  
communication and  
empowerment strategies for  
communication.

**(Low- L, Medium - M, High - H)**

## Course Syllabus

### Unit I: Approaches to Development

**(15 hours)**

- 1.1 Development communication. (K2, K3)
- 1.2 Critical perspective on communication and development. (K3, K4, K5, K6)
- 1.3 Modernization Models of development communication. (K3, K4, K5)
- 1.4 Kheda communications project. (K4, K5, K6)
- 1.5 Information and Communication technologies for rural development. (K4, K5)
- 1.6 Recent Projects. (K4, K5, K6)

### Unit II: The world of development communication

**(15 hours)**

- 2.1 The modernization paradigm. (K3, K4, K5)
- 2.2 Mainstream Development Discourse. (K3, K4, K5)
- 2.3 The Challenges. (K4, K5, K6)
- 2.4 Communication order. (K4, K5, K6)
- 2.5 Role of a communicator in the process of social change. (K3, K4, K5, K6)
- 2.6 Use of Media. (K4, K5, K6)

### Unit III: Key Concepts

**(15 hours)**

- 3.1 Key concepts in development. (K3, K4)
- 3.2 Complexities of development efforts. (k4, K5)
- 3.3 Development support communication. (K3, K4, K5)
- 3.4 Alternate path to development, Impact of Electronic media on Development. (K3, K4, K5)

- 3.5 Media Functions, structure of media companies. (K4, K5, K6)  
 3.6 Diffusion of innovation theory, 2 step flow. (K3, K4, K5, K6)

**Unit IV: Policies of Government (15 hours)**

- 4.1 e-Governance, e-Resource (ERP). (K3, K4, K5)  
 4.2 Electronic Records, Digital Signature. (K3, K4, K5)  
 4.3 Bridging Digital Divide, Demonetization. (K4, K5, K6)  
 4.4 Aathar, Digital wallet, LPG Subsidiary. (K4, K5, K6)  
 4.5 Cashless transactions, Electronic voting machine. (K4, K5, K6)  
 4.6 New Schemes of the Government. (K4, K5, K6)

**Unit V: Communication and Empowerment (15 hours)**

- 5.2 Communication strategies for development, communitarian theory. (K2, K3)  
 5.3 Communication effects approach. (K3, K4, K5, K6)  
 5.4 Mass media and modernization. (K4, K5, K6)  
 5.5 Social marketing (family, health, agriculture, HIV awareness). (K4, K5, K6)  
 5.6 ICT for social development. (K4, K5, K6)  
 5.7 ICT for Educational development. (K2, K3, K4, K5, K6)

**Books for Study and Reference:**

1. Dipankar Sinha – Development Communication , contexts for the Twenty – first Century – Orient BlackSwan, 2013.
2. Kevel J. Kumar – Mass Communication in India, 4<sup>th</sup> Edition – Jaico Publications, 2011.
3. Roger L. Sadha – Electronic Media Law – Sage Publication, 2005.
4. Srinivas R. Melkote, H. Leslie Steeves – Communication for Development in the Third World: Theory and Practice for Empowerment, 2<sup>nd</sup> Edition – Sage Publications, 2001.

**SEMESTER IV**

**PCEMS20 - PRACTICAL – VII: RESEARCH PROJECT**

Year: II	Course Code:	Title of the Course:	Course Type:	Course Category:	H/W	Credits	Marks
Sem: IV	PCEMS20	Research Project	Practical	Core	3	4	100

**Course Objective:**

To put to practice the methods of research by undertaking a study in a relevant field of media

## Course Syllabus:

The students will independently work on a research project. It will emphasize on literature review, theory-building skills, matching theory to methods and developing appropriate instruments. It will provide an orientation to database search techniques and also using Internet effectively for research. Students will work on any area of their choice within the broad field of electronic media and communications subjected to approval of their guide. They are expected to undertake a thorough study/research of the chosen subject, systematically and rigorously. They are expected to read relevant journals (some available on-line and of line) and books. Students should consult the respective guide at every stage of the research work. At the end of summer holidays, students are expected to submit a research proposal containing the following: Topic, Complete Literature Review, Research Design-Hypothesis/Research Questions, unit of Analysis, Variables/Issues to be Studied, Methods, Sampling Design Data Analysis Techniques, Questionnaire/ instrument to be used for analysis. Students can also carry out the fieldwork. The project report will have to be submitted at the end of the semester.

## Course Outcomes (CO)

The Learners will be able to

**CO1:** Describe the Basic concepts of Qualitative and Quantitative Research Methods.

**CO2:** Analysing the topic and choosing the topic related to their rate of interest.

**CO3:** Evaluating the choosing the desired conducting research.

**CO4:** Compiling the pointing the Key

**CO5:** Constructing and writing the

CO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	H	H	M
CO2	H	H	H	H	H	H
CO3	H	H	H	H	H	H
CO4	H	H	H	H	H	H

Research methodology and for

data collected and findings.

the desired conclusion Research Report.

<b>CO5</b>	<b>H</b>	<b>M</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>
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**(Low- L, Medium - M, High - H)**

**From 1 - 2 (20 hours), 3 - 4 (15 hours), 5 - 6 (10 hours)**

**Order of details expected in the Project Report**

College Certificate

Acknowledgements

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Synopsis

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  - 1.2. Scope and Limitations
  - 1.3. Sources of Data
  - 1.4. Sampling Characteristics
2. Review of Literature
3. Methodology Adopted
4. Data Analysis and Interpretation
5. Key Findings
6. Conclusion

Appendix

Bibliography

Cognitive Level:K1,K2,K3,K4,K5,K6



<b>CO3</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>
<b>CO4</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>
<b>CO5</b>	<b>H</b>	<b>M</b>	<b>H</b>	<b>H</b>	<b>H</b>	<b>H</b>

**(Low- L, Medium - M, High - H)**

**Course Syllabus:**

**Unit I: Portrayal of women in Media (15 hours)**

- 1.1. Types of media, Portrayal of women in India (K2, K3, K4)
- 1.2. Mythology vs. Media (K4, K5)
- 1.3. Theories of Media Effects and Media uses: Limited effect theory (K3, K4, K5)
- 1.4. Catharsis and Narcissistic Incidental effects (K3, K4, K5)
- 1.5. Uses and gratification, cultivation theory, Reflects effect (K3, K4, K5)
- 1.6. Representation of Women in Social media (K3, K4, K5, K6)

**Unit II: Media for Development (15 hours)**

- 2.1. Communication Research on Women and Children (K3, K4, K5)
- 2.2. Television research in India (K2, K3)
- 2.3. Family and Television (K3, K4)
- 2.4. Use of Television for women Development (K4, K5)
- 2.5. Effect of Media on Education (K4, K5, K6)
- 2.6. Mass Media and Indian Family (K4, K5, K6)

### **Unit III: Women Empowerment (15 hours)**

- 3.1. Women in Print Media, Magazine (K3,K4)
- 3.2. Women in Radio (K4, K5)
- 3.3. Women in Films (K4, K5)
- 3.4. Role of New Media in Women's Development (K4, K5, K6)
- 3.5. Children and Mass Media (K3, K4, K5)
- 3.6. Representation of women in Mass Media, Women behind Camera. ( K3, K4, K5, K6)

### **Unit IV: Development of Women (15 hours)**

- 4.1. Media & Women's Development (K3, K4)
- 4.2. Image of Women in Media (K4, K5)
- 4.3. Women Journalist in the Globe (K4, K5, K6)
- 4.4. Women Journalist in India (K4, K5, K6)
- 4.5. Famous Women Directors in the Globe (K4, K5, K6)
- 4.6. Famous Women Directors in India. (K3, K4, K5, K6)

### **Unit V: Women role in Media (15 hours)**

- 5.1. Women in Doordharshan vs. other channels (K3, K4, K5, and K6)
- 5.2. Women in Radio Program (K3, K4, K5, K6)
- 5.3. Women in Print Media (K3, K4, K5, K6)
- 5.4. Women in Media Profession (K3, K4, K5, K6)
- 5.5. Women in Media Violence (K3, K4, K5, K6)
- 5.6. Women empowerment in Social Media. (K3, K4, K5, K6)

### **Book for Study and Reference:**

1. Jaya Chakravarthy – Women in Journalism, Media and Women's Development – Sarup& Sons, New Delhi – 2007.
2. Amnu Joseph and Kalpana Sharma, Whose News, Sage Publication, 2006



3. LeelaGulati and JasodharaBagchi, A Space of her own, Sage Publication, 2005
4. Asha Hans and Annie Patri, Women, Diability and Identity, Sage Publication 2002
5. SakuntalaNarasimhan, Empowering Women, Sage Publication, 1999
6. Bhargavi V. Davar, Mental Health of Indian Women, Sage Publication, 1998



**PG MICROBIOLOGY**  
**PCMBM20 : BIOETHICS AND BIOSAFETY**

Year 2020	Course Code	Title Of The Course	Course Type	Course Category	H/W	Credits	Marks
SEM: IV	PCMBM20	Bioethics and Biosafety	Theory	Core	6	4	100

**Course Objective:** To provide the learners knowledge about biosafety concerns at the level of individuals, institution, society, region, country and the world.

**Course Outcomes (CO):**

At the end of the course, the learners will be able to;

**CO1:** Outline the principles of bioethics and explain the biosafety concerns with safeguard measures.

**CO2:** Compile the BSA statement for the industrial production of pharmaceuticals.

**CO3:** Adapt the WHO quality standards in food process technology.

**CO4:** Discuss on the global scenario of patenting.

**CO5:** Comprehend the forms of patents, patentability and process of patenting.

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	H	H	M	M	M	H
CO2	H	H	M	L	L	H
CO3	H	M	L	H	M	H
CO4	H	M	L	H	M	H
CO5	H	H	M	M	H	H

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	H	H	H	L	H	H
CO2	H	H	H	M	L	H
CO3	H	H	H	L	M	H
CO4	H	M	H	L	M	H
CO5	H	H	H	L	H	H

**H – HIGH (3)**

**M – MODERATE (2)**

**L – LOW (1)**

## **COURSE SYLLABUS**

### **UNIT-I : Principles of Bioethics. (15 hours)**

- 1.1 Definition- Bioethics. (K1,K2)
- 1.2 Legality, morality and ethics- An introduction (K1,K2)
- 1.3 Introduction to the principles of Bioethics. . (K1,K2)
- 1.4 Principles of autonomy. . (K1,K2)
- 1.5 Human rights. . (K1,K2)
- 1.6 Beneficence and privacy justice equality. . (K1,K2)

### **UNIT-II : Biosafety concerns. (15 hours)**

- 2.1 Introduction to Biosafety. . (K1,K2)
- 2.2 Concept and issues of Biosafety. . (K1,K2)
- 2.3 Rational Vs subjective perceptions of risks and benefits. . (K1,K2)
- 2.4 Relationship between risk hazard, exposure, and safe guard. . (K1,K2)
- 2.5 Biosafety concerns at the level of individuals, institutions, society, region, country and the world. . (K1,K2,K3)
- 2.6 Lab associated infections. . (K1,K2,K4)

### **UNIT-III: Statement of Ethical practice (15 hours)**

- 3.1 Introduction to BSA. . (K1,K2)
- 3.2 History of BSA . . (K1,K2)
- 3.3 British Sociological Association (BSA) statement of ethical practices of biotechnology in the production of pharmaceutical products. . (K1,K2)
- 3.4 BSA statement ethical practices of biotechnology in the production of drugs. . (K1,K2,K3)
- 3.5 BSA statement ethical practices of biotechnology in the production vaccines . (K1,K2,K3)
- 3.6 BSA statement ethical practices of biotechnology in the production biomolecules. (K1,K2,K3)

### **UNIT-IV: WHO quality standards. (15 hours)**

- 4.1 Introduction to WHO and its functions. (K1,K2)
- 4.2 WHO standards – Quality control. (K1,K2,K3)
- 4.3 Quality control in food process technology. (K1,K2,K3,K4,K5)
- 4.4 Quality control in dairy product technology. (K1,K2,K3,K4,K5)

4.5 Quality control for potable water. (K1,K2,K3,K4,K5)

4.6 Quality control measures in pharmaceutical industries. (K1,K2,K3,K4,K5)

#### **UNIT-V : IPR and Patenting. (15 hours)**

5.1 Introduction to IPR and Patenting. (K1,K2)

5.2 GATT and IPR, forms of IPR, IPR in India, WTO Act. (K1,K2,K3,K4,K5)

5.3 Convention on Biodiversity (CBD), Patent Co-operation Treaty (PCT).  
(K1,K2,K3,K4,K5)

5.4 Forms of patents and patentability, process of Patenting. (K1,K2,K3,K4,K5)

5.5 Indian and international agencies involved in IPR & patenting. (K1,K2,K3,K4,K5)

5.6 Global scenario of patents and India's position, patenting of biological material, GLP, GMP. (K1,K2,K3,K4,K5)

#### **TEXT BOOKS:**

1. Frederic H. Erbisch, Karim M. Maredia (2004). Intellectual Property Rights in Agricultural Biotechnology, CABI Publisher.
2. John Bryant (2002) Bioethics for Scientists. John Wiley and Sons Publisher.

#### **REFERENCES BOOKS:**

1. Mittal D.P. (1999). Indian Patents Law. Taxmann Allied Services (p) Ltd.
2. Christian Lenk, Nils Hoppe, Roberto Andorno (2007). Ethics and Law of Intellectual Property: Current Problems in Politics, Science and Technology, Ashgate Publisher (p) Ltd.
3. Felix Thiele, Richard E. Ashcroft (2005). Bioethics in a Small World. Springer.

#### **OER:**

#### **DIGITAL LIBRARIES:**

1. <http://www.loc.gov/>
2. <http://library.clark.edu/>
3. <http://www.dli.ernet.in/>
4. <http://www.loc.gov/education/>

**PCEMA20 - MASS COMMUNICATION AND JOURNALISM**

<b>Year: I</b> <b>Sem: I</b>	<b>Course Code:</b> PCEMA20	<b>Title of the Course:</b> Mass Communication And Journalism	<b>Course Type:</b> Theory	<b>Course Category:</b> Core	<b>H/W</b> 5	<b>Credits</b> 4	<b>Marks</b> 100
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**Course Objective**

To introduce the broad field of mass communication and journalism to students including the models, theories and ethics in the field of media

**Course Outcomes (CO)**

The learners will be able to

CO1: Review the Basics of Communication and Mass Culture.

CO2: Analyze and Understand the Western Models and Theories of Communication.

CO3: Acquiring Knowledge about the inception of Journalism.

CO4: Analyse the Journalistic Values and Various News Paper Organizations.

CO5: Evaluate the Concept of Journalistic Writing and Editing.

CO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	H	H	M
CO2	H	H	H	H	H	H
CO3	H	H	H	H	H	M
CO4	H	H	H	H	H	H
CO5	H	H	H	H	H	H

**(Low- L, Medium - M, High - H)**

CO	PO					
	1	2	3	4	5	6
CO1	H	H	H	H	H	H
CO2	H	H	H	M	H	H
CO3	H	H	H	M	H	H
CO4	H	H	H	M	H	H

CO5	H	H	H	M	H	H
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(Low- L, Medium - M, High - H)

## Course Syllabus

### Unit I: Communication Basics

(15 Hours)

- 1.1 Communication, Need of Communication (K1, K2)
- 1.2 Functions of Communication, Levels of Communication, Patterns of Communication (K1, K2, K3)
- 1.3 The Mass concept, Mass Communication process, the Mass Audience (K1, K2, K3, K4)
- 1.4 Mass Culture and popular culture (K3, K4)
- 1.5 Barriers of Communication (K3, K4, K5)
- 1.6 Media democracy (K5, K6)

### Unit II: Models of Communication

(15 Hours)

- 2.1 Transmission model, Ritual or Expressive model (K1, K2)
- 2.2 Publicity model., Reception model, Lass well Model (K1, K2, K3)
- 2.3 Shannon & Weaver model, Osgood and Schramm Circular model. (K2, K3, K4)
- 2.4 Two Steps flow model, Westley and Maclean model (K3, K4, K5)
- 2.5 Agenda Setting model, Spiral of Silence model (K3, K4, K5, K6)
- 2.6 Indian theories of communication (K4, K5, K6)

### Unit III: Basics of Journalism

(15 Hours)

- 3.1 Basics of writing and editing (K1, K2)
- 3.2 News values. (K1, K2, K3)
- 3.3 Sources of news and confidentiality (K2, K3, K4)
- 3.4 Makeup, Newspaper organisation (K2, K3, K4)
- 3.5 Press council (K3, K4, K5, K6)
- 3.6 Press commission (K4, K5, K6)

### Unit IV: Journalistic Principles

(15 Hours)

- 4.1 Journalism and the concept of news (K1, K2)
- 4.2 Journalism principles(K1, K2, K3)
- 4.3 Brief history of press in the world, India and Tamilnadu (K2, K3, K4)
- 4.4 Online Journalism (K2, K4)
- 4.5 Tabloid Journalism (K2, K4, K5, K6)
- 4.6 Yellow Journalism (K3, K4, K5, K6)

### Unit V:Journalistic Skills

(15 Hours)

- 5.1 Art of writing a new paper story (K1, K2, K3)
- 5.2 Inverted pyramid style(K2, K3, K4)
- 5.3 Feature writing (K1, K3, K4, K5)
- 5.4 Qualities of a Reporter, (K2, K3, K4)
- 5.5 Role of Editor (K2, K4, K5, K6)
- 5.6 Copy flow, Proof reading (K4, K5, K6)

**Books for Study and Reference:**

1. Mc Quail Denis – Mass Communication Theory 5<sup>th</sup> Edition
2. Keval J Kumar – Mass Communication in India 3<sup>rd</sup> Edition – Jaico publication 1982
3. Arthur Asa Berger-Essentials of Mass Communication Theory-Sage Publication 2000
4. Alfred Laurence Lorenz John Vivian–News Reporting and Writing–Pearson education – 2005.
5. D.S. Mehta – Mass Communication and Journalism in India–Allied Publication- 2003
6. T Rejshekar – Journalism Ethics and Objectives -Sonali Publication – 2009
7. RangaswamyParthasarthy – Journalism in India – Sterling Publication -Delhi – 2005
8. Ahuja B.N. - Concise Course In Reporting For Newspaper Magazine Radio And television – Surjeet Publication, Delhi - 1988

**Web Reference:**

Communicationtheory.org



**PEEMB20 - ELECTIVE – I B: BROADCAST JOURNALISM**

<b>Year: I</b> <b>Sem: I</b>	<b>Course Code:</b> PEEMB20	<b>Title of the Course:</b> Broadcast Journalism	<b>Course Type:</b> theory	<b>Course Category:</b> Elective	<b>H/W</b> 5	<b>Credits</b> 4	<b>Marks</b> 100
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**Course Objective**

To learn in-depth about the various fields of broadcast journalism and the best practices

**Course Outcomes (CO)**

The Learners will be able to

CO1:Discussing the basic concepts of Journalism.

CO2: Analysing the ethical codes and ethical standards of journalism in the contemporary media.

CO3: Acquiring in depth knowledge in television news process.

CO4: Adapting the techniques of news writing process for a radio medium.

CO5: Evaluating the legal aspects and procedures of launching the Broadcast news channel.

CO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	H	H	M
CO2	H	H	H	H	H	H
CO3	H	H	H	H	H	H
CO4	H	H	H	H	H	H
CO5	H	H	M	H	H	H

**(Low- L, Medium - M, High - H)**

CO	PO					
	1	2	3	4	5	6
CO1	H	H	H	H	H	H
CO2	H	H	H	M	H	H
CO3	H	H	H	M	H	H
CO4	H	H	H	M	H	H

CO5	H	H	H	M	H	H
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(Low- L, Medium - M, High - H)

## Course Syllabus

### Unit I: Journalism Basics (15 hours)

- 1.1. Introduction to journalism, Journalism basics. (K2, K3, K4)
- 1.2. Sources of News.(K2, K3, K4, K5)
- 1.3. Editorial department. (K3, K4, K5, K6)
- 1.4. What is News? News values. (K2, K3, K4, K5)
- 1.5. Construction of News, News frames. (K3, K4, K5)
- 1.6. News selection. (K4, K5, K6)

### Unit II: Journalism Ethics (15 hours)

- 2.1. Journalism Ethics & standards, Code of conduct. (K3, K4, K5)
- 2.2. Press council. (K3, K4, K5)
- 2.3. The journalist in the society. (K3, K4, K5)
- 2.4. Critical review of media, Democracy & Journalism. (K3, K4, K5, K6)
- 2.5. The growing importance of the press. (K4, K5, K6)
- 2.6. Current issues of journalism.(K4, K5, K6)

### Unit III: Television News (15 hours)

- 3.1 TV Newsroom. (K2, K3, K4)
- 3.2 TV Rundowns, TV news gathering. (K3, K4, K5)
- 3.3 TV news writing, TV features. (K4, K5, K6)
- 3.4 TV documentaries writing & shooting. (K4, K5, K6)
- 3.5 TV interviews. (K4,K5, K6)
- 3.6 Special TV programs- News, Features, Social, Cultural, Educational, Sports, Women's, Children's, Matching visuals with stories.(K4, K5, K6)

### Unit IV: Radio News (15 hours)

- 4.1 Reporting for radio. (K2, K3, K4)
- 4.2 News writing, News gathering. (K3, K4, K5)
- 4.3 Radio rundowns. (K3, K4, K5)
- 4.4 Use of tape recorder, Field spot. (K4, K5, K6)
- 4.5 Special reporting, Radio talks, Radio interviews. (K3, K4, K5)
- 4.6 Radio discussions, Radio conferences, Bridge radio.(K4, K5, K6)

**Unit V: Broadcasting Journalism****(15 hours)**

- 5.1 Broadcasting – Business, Legal, Financial, Commercial. (K3, K4, K5)
- 5.2 Aspects, Public, Private & global radio systems and their working program costing. (K3, K4, K5)
- 5.3 Budget & marketing. (K4, K5, K6)
- 5.4 Audience research. (K4, K5, K6)
- 5.5 TRPs in radio & TV. (K4, K5, K6)
- 5.6 Online journalism. (K4, K5, K6)

**Books for Study & Reference**

1. Hillard - Writing for Television, Radio & New media, Seventh Edition, 2011.
2. Tony Harcup - Journalism principles & practice, Second Edition, 2009
3. Awasthy, G.C. - Broadcasting in India, Allied Publishers, 2007

**PIEMB20 - INDEPENDENT ELECTIVE-ELECTRONIC JOURNALISM**

<b>Year: I</b>	<b>Course Code:</b>	<b>Title of the Course:</b>	<b>Course Type:</b>	<b>Course Category:</b>	<b>H/W</b>	<b>Credits</b>	<b>Marks</b>
<b>Sem: II</b>	PIEMB20	<b>Electronic Journalism</b>	Theory	Independent Elective		2	100

**Course Objectives:**

To provide the insight knowledge about the electronic news production and Produce the competent journalists and news producers for the current information world.

**Course Outcomes (CO)**

The Learners will be able to

CO1: Indicating the origin and development of electronic journalism

CO2: Analysing the concept of radio news production and its genres

CO3: Applying the concept of television news production techniques and live news

CO4: Elaborating the features and development of online journalism

CO5: Compiling the technologies used for electronic journalism

CO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	H	H	M
CO2	H	H	H	H	H	H
CO3	H	H	H	H	H	H
CO4	H	H	H	H	H	H
CO5	H	H	H	H	H	H

**(Low- L, Medium - M, High - H)**

CO	PO					
	1	2	3	4	5	6
CO1	H	H	H	H	H	H
CO2	H	H	H	M	H	H
CO3	H	H	H	M	H	H
CO4	H	H	H	M	H	H
CO5	H	H	H	M	H	H

(Low- L, Medium - M, High - H)

## **Course Syllabus:**

### **Unit I: Introduction to Electronic Journalism**

- 1.1. Origin and Development of Electronic News Broadcasting (K2, K3)
- 1.2. Differences between Print and Electronic Journalism (K3, K4)
- 1.3. Citizen Journalism (K2, K3, K4)
- 1.4. Consumption pattern of news in Television, Radio and Online (K3, K4, K5, K6)
- 1.5. Importance of Sound and visuals (K3, K4)
- 1.6. Emergence of electronic news gathering tools and practice. ( K3, K4, K5, K6)

### **Unit II: Radio News Production**

- 2.1. Basics of Radio News (K2, K3)
- 2.2. Components of News (K3, K4)
- 2.3. Radio news room set-up, Radio News Reporting (K3, K4, K5)
- 2.4. News writing and presentation, Elements of editing, (K3, K4)
- 2.5. Integrating audio bytes (K2, K3)
- 2.6. Radio talks and discussions, radio interviews. (K3, K4, K5, K6)

### **Unit III: Television News Production**

- 3.1. TV News room work process (K3, K4, K5)
- 3.2. Basics of TV News, sources and contacts (K4, K5, K6)
- 3.3. News research and planning, hour glass structure (K4, K5, K6)
- 3.4. TV interviewing techniques (K4, K5, K6)
- 3.5. Piece - to - camera, Process of Live inputs (K3, K4, and K5)
- 3.6. News anchoring. (K3, K4)

### **Unit IV: Online Journalism**

- 4.1. Development of the online news media (K2, K3)
- 4.2. Features of online media: interactivity and hypertextuality, online storytelling (K3, K4, K5)
- 4.3. Presentation with audio recording and editing, photo shooting and editing, slide show, character driven narrative (K4, K5, K6)
- 4.4. Identification of relative stories for hyper linking (K2, K3)
- 4.5. Search engine optimization (SEO) (K2, K3, K4)
- 4.6. User engagement, user generated content, Use of Twitter, Face book, YouTube, Flickr, LinkedIn, blog.( K2, K3, K4, K5, K6)

### **Unit V: Technologies for Electronic Journalism**

- 5.1. Outside Broadcast van and its functions (K2, K3, K4)

- 5.2. Mobile technology and its role in aiding news coverage (K3, K4, K5)
- 5.3. Bi-media reporting (K3, K4)
- 5.4. Convergence newsroom (K4, K5, K6)
- 5.5. Multi-skilling (K4, K5)
- 5.6. Broadcasting software's (K3,K4)

**Text Books:**

1. Andrew Boyd, Broadcast Journalism, Focal Press, 2007
2. Mitchell Stephens and Beth M. Olson, Broadcast News, Fourth Edition, Thomson Wordsworth, 2005.
3. Eric K. Gormly, Writing and Producing Television News, 2nd Edition, Surjeet Publications, New Delhi, 2005.
4. Singh PP., Jonge De., Hakemulder, Jan 'Broadcast Journalism' – Anmol Publication, New Delhi, India, 2005.

**References:**

1. Alfred Lawrence Lorenz and John Vivian, News Reporting and Writing, Pearson. 2006
2. Lynette Sheridan Burns, Understanding Journalism, Vistaar Publications, 2006
3. Robert L. Hilliard, Writing for TV, Radio and New Media, Thomson Publications, 2003
4. N.C Pant, Modern Journalism, Kanishka Publishers, 2002
5. R.K. Ravindran, Radio, TV, Broadcast Journalism, Anmol Publications, 2000

**PCEMM20 - PUBLIC RELATIONS AND CORPORATE COMMUNICATION**

<b>Year:</b> II	<b>Course Code:</b>	<b>Title of the Course:</b> Public Relations and Corporate Communication	<b>Course Type:</b> Theory	<b>Course Category:</b> Core	<b>H/W</b> 5	<b>Credits</b> 4	<b>Marks</b> 100
<b>Sem:</b> III	PCEMM20						

**Course Objective:**

To initiate students to the field of Public Relations and Corporate Communication by giving them a background, trends and techniques in PR

**Course Outcomes (CO)****The Learners will be able to**

CO1: Review the concepts of public relations and different models of PR.

CO2: Evaluating the functions of PR and PR Writing.

CO3: Analysing the role of PR in press and other media relations.

CO4: Acquiring the knowledge on corporate communication.

CO5: Elaborate the PR profession and PR in the digital Era.

CO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	H	H	M
CO2	H	H	H	H	H	H
CO3	H	H	H	H	H	H
CO4	H	H	H	H	H	H
CO5	H	H	M	H	H	H

(Low- L, Medium - M, High - H)

CO	PO					
	1	2	3	4	5	6
CO1	H	H	H	H	H	H
CO2	H	H	H	M	H	H
CO3	H	H	H	M	H	H
CO4	H	H	H	M	H	H

CO5	H	H	H	M	H	H
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(Low- L, Medium - M, High - H)

**Course Syllabus:**

**Unit I: Introduction to Public Relations (15 hours)**

- 1.1 Brief History of Public Relations – Definition of PR (K2, K3)
- 1.2 Public relations and Communication (K2, K3, K4)
- 1.3 Functions of Public Relations (K4, K5)
- 1.4 Benefits of PR - Models of PR – PR and Politics (K3, K4, K5)
- 1.5 Government PR – The Lobby – Spin and Image Management (K4, K5, K6)
- 1.6 Political Communication and the Public Sphere – Triads of PR (K3, K4, K5)

**Unit II: Functions of PR (15 hours)**

- 2.1 Publics – Internal and External(K3, K4)
- 2.2 Tools and activities for Internal PR(K4, K5)
- 2.3 Necessity and Goals of Employee Communication (K3, K4, K5)
- 2.4 Tools for External PR, (K2, K3, K4)
- 2.5 PR Writing, writing speeches, scripts, features, Newsletters, annual reports, direct mail, brochures, proposals (K3, K4, K5)
- 2.6 Writing for the web (K4, K5, K6)

**Unit III: Press and PR (15 hours)**

- 3.1 Press Releases and its Types (K2, K3, K4)
- 3.2 Writing Tips and Distribution(K3, K4, K5)
- 3.3 Audio News Release, Video News Release, Press Conferences (K3, K4, K5)
- 3.4 Prime-time/ National, Photo-op and Joint PC (K2, K3, K4)
- 3.5 Press Briefing, Embargoes, Background Briefings (K3, K4, K5)
- 3.6 Media Relations (K3, K4, K5)

**Unit IV: Corporate Communication (15 hours)**

- 4.1 Corporate Communication (K3, K4)
- 4.2 Corporate Image and Identity (K3, K4, K5)
- 4.3 House Magazines and Newsletters (K3, K4, K5)
- 4.4 Risk, Issues and Crisis Management (K3, K4, K5, K6)
- 4.5 Corporate Social Responsibility, Corporate Community Involvement and cause-related marketing (K2, K3, K4, K5)
- 4.6 Business to Business PR, Financial PR (K4, K5, K6)



**Unit V: Digital PR and PR Profession****(15 hours)**

- 5.1 PR in the Digital Era (K2, K3, K4)
- 5.2 Revolution or evolution (K2, K3, K4)
- 5.3 Social media influences, writing for websites (K4, K5, K6)
- 5.4 Futures challenges for PR and Corporate Communication (K4, K5, K6)
- 5.5 PR Agencies, Structure and Hierarchy, Professional Organisations (K5, K6)
- 5.6 Ethics in PR practice and writing, Codes of Practice (K4, K5, K6)

**Books for Study and Reference:**

1. Alison Theaker - The Public Relations Handbook - Routledge Publishers, 2012.
2. J. V. Vilanilam - Public Relations in India - Sage Publications, 2011.
3. K. M Shrivastava - Public Relations in the Digital Era - Pilgrims Publishing, 2007.
4. Donald Treadwell, Jill B. Treadwell - Public Relations Writing - Sage Publications, 2005.
5. Dr. G.C. Banik - PR and Media Relations - Jaico Publishing House, 2005.
6. Doug Newsom, Bob Carrell - Public Relations Writing Form and Style - Wadsworth, 2001.
7. Scott M. Cutlip, Allen H. Center, Glen M. Broom - Effective Public Relations – Pearson Education, 2000.

**PIEMC20 - INDEPENDENT ELCTIVE -WOMEN AND ADVERTISING**

<b>Year: II</b>	<b>Course Code: PIEMC20</b>	<b>Title of the Course: Women and Advertising</b>	<b>Course Type: Theory</b>	<b>Course Category: Independent Elective</b>	<b>H/W</b>	<b>Credits</b> 2	<b>Marks</b> 100
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**Course Objective:** To provide the basic understanding about the role of women in the field of advertisement and to develop career opportunities.

**Course Outcomes(CO)**

The Learners will be able to

CO1:Describing the role of women in Advertising

CO2:Analysing the portrayal of women in advertising

CO3:Evaluating the ethical codes of advertising

CO4:Exploring on the women entrepreneurship in India

CO5:Compiling the notable emerging women leaders in Advertising

CO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	H	H	M
CO2	H	H	H	H	H	H
CO3	H	H	H	H	H	H
CO4	H	H	H	H	H	H
CO5	H	M	H	H	H	H

**(Low- L, Medium - M, High - H)**

CO	PO					
	1	2	3	4	5	6
CO1	H	H	H	H	H	H
CO2	H	H	H	M	H	H
CO3	H	H	H	M	H	H
CO4	H	H	H	M	H	H
CO5	H	H	H	M	H	H

**(Low- L, Medium - M, High - H)**

**Course Syllabus:**

**Unit I: Women in Advertising**

- 1.1. Commoditization of women in advertising (K2, K3, K4)
- 1.2. Commodity Feminism-feminist and Advertising (K3, K4,K5)
- 1.3. Advertisement as gender scripts (K3,K4,K5)
- 1.4. Textually and Mediated Identities (K4.K5)
- 1.5. Representation: Role, Character Traits and body Types (K4,K5,K6)
- 1.6. Trends in Advertisements - Advertising false ideals.(K1, K2, K3, K4, K5, K6)

**Unit II: Projection of Women in Advertisements**

- 2.1. Sexism in advertising (K2, K3)
- 2.2. Female objectification of women (K3, K4)
- 2.3. Women through the lens of commercial advertising (K3, K4, K5)
- 2.4. Women- be sexualized case Study (K4, K5, K6)
- 2.5. Modern Advertisement-women as consumers, women as objects (K3, K4, K5, K6)
- 2.6. Changing the portrayal of women in advertisement in Social transformations.( K2, K3, K4, K5, K6)

**Unit III: Ethics in Advertising**

- 3.1. Ethical issues in advertising (K2, K3, and K4)
- 3.2. NARB-ASCI-ASCI Codes & Guidelines (K2, K3,K4)
- 3.3. Case study on-Decisions by ASCI for unethical Ads(K4,K5,K6)
- 3.4. Laws Governing Advertisements-(K2,K3)
- 3.5. Drugs and cosmetics act 1940, Drugs and Magic Remedies Act 1954, (K4, K5, K6)
- 3.6. Indecent representation of women act 1986, Patent Act 1970, Copy right act 1957, Trademarks Act 1999.( K2, K3, K4, K5, K6)

**Unit IV: Women as Entrepreneurs**

- 4.1. Creative women: Their potential (K2, K3, K4)
- 4.2. Creative women: Their personality (K2, K3, K4)
- 4.3. Creative women: Their Productivity (K2, K3, K4)
- 4.4. Evolution of women entrepreneurship in India (K4, K5, K6)
- 4.5. Skills & requirements for women (K4, K5, K6)
- 4.6. Role of women entrepreneurship in economic development. (K2, K3, K4, K5, K6)

**Unit V: Careers in Advertising**

- 5.1. Growth of Advertising Industry in India (K3, K4, K5)

- 5.2. Careers in Advertising- Content Writers, Content Managers, creative development, marketing, (K4, K5, K6)
- 5.3. Management - SEO (Search Engine optimization)(K2,K3,K4)
- 5.4. Digital Media Designer (K3, K4)
- 5.5. Social Media Marketing-(K4, K5, K6)
- 5.6. Emerging women leader and notable women in Advertising field. (K2, K3, K4, K5, K6)

**Books for study and Reference:**

1. John Philip Jones- International Advertising: Realities and Myths –Sage Publications,2000
2. Robert Cluley- Essential of advertising –Kogan Publishers, Fenruary,2017.
3. S. N. Murthy, U. Bhojana - Advertising an IMC perspective –Excel Books ,2007.
4. S.A. Chunawalla - Advertising, sales and promotion Management –Himalaya Publishing House, 2006.
5. Frank Jefkins,DanielYadin - Advertising ,4<sup>th</sup> Edition - Pearse Education, 2006
6. J.V. Vilanilam, A.K. Varghese - Advertising Basics: A resource Guide for Beginners- Response Books, 2004.
7. Sandage, Fryburger, Rotzoll-Advertising Theory and Practice,11<sup>th</sup> Edition –AITBS publishers,2004.
8. R.C. Bhatia –Marketing Communication and advertising –Galgotia Publishers,2003
9. John Philip Jones –How Advertising works –Sage publications ,1998
10. Courtland L. Bovee- Advertising Excellence-McGraw hill,1995.

## **PCEMQ20 - DEVELOPMENT COMMUNICATION**

<b>Year: II</b> <b>Sem: IV</b>	<b>Course Code:</b> PCEMQ20	<b>Title of the Course:</b> Development Communication	<b>Course Type:</b> Theory	<b>Course Category:</b> Core	<b>H/W</b> 5	<b>Credits</b> 4	<b>Marks</b> 100
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### **Course Objective:**

To enable students to understand the use of media in furthering development of society and the contributions of media professionals in democracy

### **Course Outcomes (CO)**

The Learners will be able to

CO1: Review the various approaches for Development communication.

CO2: Analysing the Development communication in the global perspectives.

CO3: Acquiring the knowledge about the key concepts in development communication.

CO4: Assessing the policies of government on development perspectives.

CO5: Evaluating the role communication and empowerment strategies for development communication.

CO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	H	H	M
CO2	H	H	H	H	H	H
CO3	H	H	H	H	H	H
CO4	H	H	H	H	H	H
CO5	H	M	H	H	H	H

**(Low- L, Medium - M, High - H)**

CO	PO					
	1	2	3	4	5	6
CO1	H	H	H	H	H	H
CO2	H	H	H	M	H	H
CO3	H	H	H	M	H	H
CO4	H	H	H	M	H	H

CO5	H	H	H	M	H	H
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**(Low - L, Medium - M, High - H)**

## **Course Syllabus**

### **Unit I: Approaches to Development (15 hours)**

- 1.1 Development communication. (K2, K3)
- 1.2 Critical perspective on communication and development. (K3, K4, K5, K6)
- 1.3 Modernization Models of development communication. (K3, K4, K5)
- 1.4 Kheda communications project. (K4, K5, K6)
- 1.5 Information and Communication technologies for rural development. (K4, K5)
- 1.6 Recent Projects. (K4, K5, K6)

### **Unit II: The world of development communication (15 hours)**

- 2.1 The modernization paradigm. (K3, K4, K5)
- 2.2 Mainstream Development Discourse. (K3, K4, K5)
- 2.3 The Challenges. (K4, K5, K6)
- 2.4 Communication order. (K4, K5, K6)
- 2.5 Role of a communicator in the process of social change. (K3, K4, K5, K6)
- 2.6 Use of Media. (K4, K5, K6)

### **Unit III: Key Concepts**

- 3.1 Key concepts in development. (K3, K4)
- 3.2 Complexities of development efforts. (k4, K5)
- 3.3 Development support communication. (K3, K4, K5)
- 3.4 Alternate path to development, Impact of Electronic media on Development. (K3, K4, K5)
- 3.5 Media Functions, structure of media companies. (K4, K5, K6)
- 3.6 Diffusion of innovation theory, 2 step flow. (K3, K4, K5, K6)

### **Unit IV: Policies of Government (15 hours)**

- 4.1 e-Governance, e-Resource (ERP). (K3, K4, K5)
- 4.2 Electronic Records, Digital Signature. (K3, K4, K5)
- 4.3 Bridging Digital Divide, Demonetization. (K4, K5, K6)
- 4.4 Aathar, Digital wallet, LPG Subsidiary. (K4, K5, K6)
- 4.5 Cashless transactions, Electronic voting machine. (K4, K5, K6)
- 4.6 New Schemes of the Government. (K4, K5, K6)

### **Unit V: Communication and Empowerment (15 hours)**

- 5.2 Communication strategies for development, communitarian theory. (K2, K3)
- 5.3 Communication effects approach. (K3, K4, K5, K6)

- 5.4 Mass media and modernization. (K4, K5, K6)
- 5.5 Social marketing (family, health, agriculture, HIV awareness). (K4, K5, K6)
- 5.6 ICT for social development. (K4, K5, K6)
- 5.7 ICT for Educational development. (K2, K3, K4, K5, K6)

**Books for Study and Reference:**

1. Dipankar Sinha – Development Communication , contexts for the Twenty – first Century – Orient BlackSwan, 2013.
2. Kevel J. Kumar – Mass Communication in India, 4<sup>th</sup> Edition – Jaico Publications, 2011.
3. Roger L. Sadha – Electronic Media Law – Sage Publication, 2005.
4. Srinivas R. Melkote, H. Leslie Steeves – Communication for Development in the Third World: Theory and Practice for Empowerment, 2<sup>nd</sup> Edition – Sage Publications, 2001.

## PCEMS20 - PRACTICAL – VII: RESEARCH PROJECT

<b>Year: II</b> <b>Sem: IV</b>	<b>Course Code:</b> PCEMS20	<b>Title of the Course:</b> <b>Research Project</b>	<b>Course Type:</b> Practical	<b>Course Category:</b> Core	<b>H/W</b> 3	<b>Credits</b> 4	<b>Marks</b> 100
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### Course Objective:

To put to practice the methods of research by undertaking a study in a relevant field of media

### Course Syllabus:

The students will independently work on a research project. It will emphasize on literature review, theory-building skills, matching theory to methods and developing appropriate instruments. It will provide an orientation to database search techniques and also using Internet effectively for research. Students will work on any area of their choice within the broad field of electronic media and communications subjected to approval of their guide. They are expected to undertake a thorough study/research of the chosen subject, systematically and rigorously. They are expected to read relevant journals (some available on-line and of line) and books. Students should consult the respective guide at every stage of the research work. At the end of summer holidays, students are expected to submit a research proposal containing the following: Topic, Complete Literature Review, Research Design- Hypothesis/Research Questions, unit of Analysis, Variables/Issues to be Studied, Methods, Sampling Design Data Analysis Techniques, Questionnaire/ instrument to be used for analysis. Students can also carry out the fieldwork. The project report will have to be submitted at the end of the semester.

### Course Outcomes (CO)

The Learners will be able to

**CO1:** Describe the Basic concepts of Qualitative and Quantitative Research Methods.

**CO2:** Analysing the topic and choosing the topic related to their rate of interest.

**CO3:** Evaluating the Research and choosing the desired methodology for conducting research.

**CO4:** Compiling the data collected and pointing the Key findings.

**CO5:** Constructing the desired conclusion and writing the Research Report.

CO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	H	H	M
CO2	H	H	H	H	H	H
CO3	H	H	H	H	H	H
CO4	H	H	H	H	H	H
CO5	H	M	H	H	H	H



CO	PO					
	1	2	3	4	5	6
CO1	H	H	H	H	H	H
CO2	H	H	H	M	H	H
CO3	H	H	H	M	H	H
CO4	H	H	H	M	H	H
CO5	H	H	H	M	H	H

Low- L, Medium - M, High - H)

**From 1 - 2 (20 hours), 3 - 4 (15 hours), 5 - 6 (10 hours)**

### **Order of details expected in the Project Report**

College Certificate

Acknowledgements

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Synopsis

1. Introduction

1.1. Objective

1.2. Scope and Limitations

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4. Data Analysis and Interpretation

5. Key Findings

6. Conclusion

Appendix

Bibliography

Cognitive Level:K1,K2,K3,K4,K5,K6

The Internal Evaluation for 40 Marks is based on the completion of work at each stage of the project, PowerPoint presentation of the project details and a model viva.

The Semester Evaluation is based on the final Project Report (20 Marks) and the Viva-Voce (40 Marks).

**PEEMH20 - ELECTIVE IV B: WOMEN AND MEDIA**

<b>Year: II</b> <b>Sem: IV</b>	<b>Course Code:</b> PEEMH20	<b>Title of the Course:</b> <b>Women and Media</b>	<b>Course Type:</b> Theory	<b>Course Category:</b> Elective	<b>H/W</b> 5	<b>Credits</b> 4	<b>Marks</b> 100
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**Course Objective:**

- To enlighten students on the role of media in empowering women in society and the contributions of women in growing the media field

**Course Outcomes (CO)****The Learners will be able to**

CO1: Discuss the Concept of Portrayal of women in Media.

CO2: Analysing the concept of Media for Development.

CO3: Examining the portrayal of women in Media

CO4: Acquiring Knowledge about Development of women in Media.

CO5: Evaluating the role of Women in Media.

CO	PO					
	1	2	3	4	5	6
CO1	H	H	H	H	H	H
CO2	H	H	H	M	H	H
CO3	H	H	H	M	H	H
CO4	H	H	H	M	H	H
CO5	H	H	H	M	H	H

**(Low- L, Medium - M, High - H)**

CO	PSO					
	1	2	3	4	5	6
CO1	H	H	H	H	H	M
CO2	H	H	H	H	H	H
CO3	H	H	H	H	H	H
CO4	H	H	H	H	H	H
CO5	H	M	H	H	H	H

(Low- L, Medium - M, High - H)

**Course Syllabus:**

**Unit I: Portrayal of women in Media**

**(15 hours)**

- 1.1. Types of media, Portrayal of women in India (K2, K3, K4)
- 1.2. Mythology vs. Media (K4, K5)
- 1.3. Theories of Media Effects and Media uses: Limited effect theory (K3, K4, K5)
- 1.4. Catharsis and Narcissistic Incidental effects (K3, K4, K5)
- 1.5. Uses and gratification, cultivation theory, Reflects effect (K3, K4, K5)
- 1.6. Representation of Women in Social media (K3, K4, K5, K6)

**Unit II: Media for Development**

**(15 hours)**

- 2.1. Communication Research on Women and Children (K3, K4, K5)
- 2.2. Television research in India (K2, K3)
- 2.3. Family and Television (K3, K4)
- 2.4. Use of Television for women Development (K4, K5)
- 2.5. Effect of Media on Education (K4, K5, K6)
- 2.6. Mass Media and Indian Family (K4, K5, K6)

**Unit III: Women Empowerment**

**(15 hours)**

- 3.1. Women in Print Media, Magazine (K3, K4)
- 3.2. Women in Radio (K4, K5)
- 3.3. Women in Films (K4, K5)
- 3.4. Role of New Media in Women's Development (K4, K5, K6)
- 3.5. Children and Mass Media (K3, K4, K5)
- 3.6. Representation of women in Mass Media, Women behind Camera. ( K3, K4, K5, K6)

**Unit IV: Development of Women**

**(15 hours)**

- 4.1. Media & Women's Development (K3, K4)
- 4.2. Image of Women in Media (K4, K5)
- 4.3. Women Journalist in the Globe (K4, K5, K6)
- 4.4. Women Journalist in India (K4, K5, K6)
- 4.5. Famous Women Directors in the Globe (K4, K5, K6)
- 4.6. Famous Women Directors in India. (K3, K4, K5, K6)

**Unit V: Women role in Media**

**(15 hours)**

- 5.1. Women in Doordharshan vs. other channels (K3, K4, K5, and K6)
- 5.2. Women in Radio Program (K3, K4, K5, K6)
- 5.3. Women in Print Media (K3, K4, K5, K6)
- 5.4. Women in Media Profession (K3, K4, K5, K6)

5.5. Women in Media Violence (K3, K4, K5, K6)

5.6. Women empowerment in Social Media. (K3, K4, K5, K6)

**Book for Study and Reference:**

1. Jaya Chakravarthy – Women in Journalism, Media and Women’s Development – Sarup& Sons, New Delhi – 2007.
2. Amnu Joseph and Kalpana Sharma, Whose News, Sage Publication, 2006
3. LeelaGulati and JasodharaBagchi, A Space of her own, Sage Publication, 2005
4. Asha Hans and Annie Patri, Women, Disability and Identity, Sage Publication 2002
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