DEPARTMENT OF COMPUTER SCIENCE

LESSON PLAN

2020-2021

AUXILIUM COLLEGE (AUTONOMOUS)
Lesson Plan for the year 2020 – 2021
ODD SEMESTER

Staff Name:Dr. S.Lavanya
Subject: ELECTIVE III A: INTERNET OF THINGS
Subject Code: PECSE19
Class: II M.Sc. Computer Science

Week	Portions to be covered	Reference	Platform (LMS)
JULY II	Introduction - Introduction – Physical Design - Logical Design	Arshdeep Bahga and Vijay Madisetti (2014), Internet of Things. 1st Edition. Rajkumar Buyya, Amir Vahid Dastjerdi (2016). Internet of Things: Principles and Paradigms. Elsevier Science.	Google Meet and Google Classroom
III	Enabling Technologies - Levels and Deployment Templates.	Arshdeep Bahga and Vijay Madisetti (2014), Internet of Things. 1st Edition https://www.youtube.com/watch?v=m_HWDputGh8	Google Meet and Google Classroom
IV	Domain Specific IoTs: Home Automation-Cities – Environment - Enery-Retail-Logistics-Agriculture – Industry - Health & Lifestyle	https://www.youtube.com/watch?v=OfGxbxUCa2k https://www.youtube.com/watch?v=91aXs9E0qAI	Google Meet and Google Classroom
AUG I	M2M - Difference between IoT and M2M-SDN and NFV	Arshdeep Bahga and Vijay Madisetti (2014), Internet of Things. 1st Edition	Google Meet and Google Classroom
II	System Management: SNMP-Network Operator Requirements	Arshdeep Bahga and Vijay Madisetti (2014), Internet of Things. 1st Edition https://www.youtube.com/watch?v=2IXP0TkwNJU	Google Meet and Google Classroom
III	NETCONF - YANG-IoT with NETCONF	https://www.youtube.com/watch?v=V55Y7ibjXcw	Google Meet and Google Classroom
IV	YANG-NETOPEER	https://www.youtube.com/watch?v=_utO-UL_3YU	Google Meet and Google Classroom

SEP I	*IoT Platforms Design Methodology: IoT Design Methodology*	Arshdeep Bahga and Vijay Madisetti (2014), Internet of Things. 1st Edition	Google Meet and Google Classroom
II	Case Study for Weather Monitoring-	https://www.youtube.com/watch?v=dizUklbvoxA https://www.youtube.com/watch?v=5ikz_K0fZls https://www.youtube.com/watch?v=K-QmBoERMcg	Google Meet and Google Classroom
III	Python – Basics - Tuples – arrays – lists- Dictionaries	https://docs.python.org/3/tutorial/ https://www.youtube.com/watch?v=_uQrJ0TkZlc https://www.youtube.com/watch?v=QXeEoD0pB3E&list=PLsyeobzWxl7poL9JTVyndKe62ieoN-MZ3 https://docs.python.org/3/tutorial/	Google Meet and Google Classroom
IV	- Case studies on IOT design methodology	https://www.tutorialspoint.com/python/index.htm	Google Meet and Google Classroom
OCT I	IEEE 802.15.4: IEEE 802 Committee Family of Protocols	https://en.wikipedia.org/wiki/IEEE_802.15.4 Oliver Hersent and David Boswarthick and Omar Elloumi (2018). The Internet of Things: Key Applications and Protocols. WILEY.	Google Meet and Google Classroom
II	Physical Layer-MAC Layer-Uses	https://www.electronics-notes.com/articles/connectivity/ieee-802-15-4-wireless/basics-tutorial-primer.php	Google Meet and Google Classroom
III	PLC Landscape-Power line Communication-Ideal PLC System	Oliver Hersent and David Boswarthick and Omar Elloumi (2018). The Internet of Things: Key Applications and Protocols. WILEY.	Google Meet and Google Classroom
IV	Zigbee: Standard-Architecture – Association Zigbee Network Layer-APS Layer - ZDO and ZDP-Security	https://www.digi.com/solutions/by-technology/zigbee-wireless-standard#:~:text=Zigbee%20is%20a%20wireless%20technology,900%20MHz%20and%20868%20MHz. https://www.elprocus.com/what-is-zigbee-technology-architecture-and-its-applications/	Google Meet and Google Classroom

NOV I	Cluster Library-Application-Gateway Specification for Network Devices.	Oliver Hersent and David Boswarthick and Omar Elloumi (2018). The Internet of Things: Key Applications and Protocols. WILEY.	Google Meet and Google Classroom
NOV II-IV, DEC I	Revision		Google Classroom

Subject: JAVA PROGRAMMING,PRACTICAL: JAVA
Subject Code: UCCAH19, UCCAJ19
Class: II BCA

Week	Portions to be covered	Reference	Platform (LMS)
JULY II	Introduction to Java - Features of Java	Herbert Schildt - "The Complete Reference: Java 2", 10th Edition Tata McGraw Hill Publication, 2018.	Google Meet , Google Classroom,
III	Lexical issues Data types - Variables	Herbert Schildt - "The Complete Reference: Java 2", 10th Edition Tata McGraw Hill Publication, 2018.	Google Meet , Google Classroom
IV	Operators Type conversion and casting - Control Statements	Herbert Schildt - "The Complete Reference: Java 2", 10th Edition Tata McGraw Hill Publication, 2018.	Google Meet and Google Classroom,
AUG I	Arrays - Strings Classes - Objects - Constructors - Overloading method	E.Balagurusamy, "Programming with Java: A Primer", 4th Edition, Tata McGraw Hill Publication, 2015.	Google Meet and Google Classroom
II	Access Control - Static and Fixed method - Inner Class - String class	Herbert Schildt - "The Complete Reference: Java 2", 10th Edition Tata McGraw Hill Publication, 2018.	Google Meet and Google Classroom
III	Inheritance - Overriding Method - Using Super Class	E.Balagurusamy, "Programming with Java: A Primer", 4th Edition, Tata McGraw Hill Publication, 2015.	Google Meet and Google Classroom
IV	Programs Ex. 1 and 2	https:// tutorialpoint.com/java	Online java compilers
SEP I	Input/output: Exploring Java i/o: The Java I/O classes and	https://www.programiz.com/java-programming/bufferedinputstream	Google Meet and Google Classroom

	Interfaces		
II	File - The Stream Classes - Packages	https://www.programiz.com/java-programming/bufferedinputstream	Google Meet and Google Classroom
III	- Access Protection - Importing Packages	https:// tutorialpoint.com/java	Google Meet and Google Classroom
IV	Interfaces- practical programs	https:// tutorialpoint.com/java	Google Meet and Google Classroom, online java compiler
OCT I	Exception Handling: try, catch - Throw and Throws - Finally	Herbert Schildt - "The Complete Reference: Java 2", 10th Edition Tata McGraw Hill Publication, 2018.	Google Meet and Google Classroom
II	Thread – Multithreading – practical programs	Herbert Schildt - "The Complete Reference: Java 2", 10th Edition Tata McGraw Hill Publication, 2018.	Google Meet and Google Classroom
III	Creating a Thread - Synchronization - Deadlock	E.Balagurusamy, "Programming with Java: A Primer", 4th Edition, Tata McGraw Hill Publication, 2015.	Google Meet and Google Classroom
IV	The Java Applet and Interface - getDocumentBase() and getCodeBase()	C. Muthu, "Programming with Java", 2nd Edition, Tata McGraw Hill Publishing, 2015.	Google Meet and Google Classroom
NOV I	Event Handling - Working with Windows using AWT Classes.	C. Muthu, "Programming with Java", 2nd Edition, Tata McGraw Hill Publishing, 2015.	Google Meet and Google Classroom
NOV II - III	AWT controls – Labels, Text box, menus and other controls	E.Balagurusamy, "Programming with Java: A Primer", 4th Edition, Tata McGraw Hill Publication, 2015.	Google Meet and Google Classroom
NOV IV, DEC I	Revision		Google Classroom

Semester plan – Even semester

Subject Name: Wireless Communications & Networks
Subject code: PCCSH20

Month	Week	portions covered
Jan	I	Introduction to wireless - Basic standards - concepts in cellular
	II	Introduction to cellular - To increase capacity of cellular
	III	propagation models in wireless Network
	IV	cellular Integration - Multiple Access.
Feb	I	TDMA - SDMA - CDMA - FDMA
	II	GSM - processing gain - Frame types
	III	Architecture - control Frame
Mar	II	GPRS - control packets - Antennas - cordless phone - Generations
	III	UMTS - 3G - 4G - UTRAN - LTE
	IV	CSMA - IS-95 - IS-95B
Apr	I	IP - IPV4 - IPV6 - ICMP - protocols - UDP - IGMP - Triangular routing

Month	Week	portions Covered
Apr	II	Hierarchical routing - Wifi - IEEE 802.11 architecture
	III	MAC - physical layer - 802.16
	IV	Broadband Access - Integration - security in WLAN - Handoff and Roaming
May	I	Revision

Subject code : UCCAM19

Subject Name : python

semester : IV semester

Month	Week	portions covered
Jan	I	Basic concepts of python - Applications - Advantages and Disadvantages
	II	programming concepts - variables keywords - operator
	III	control structures - if - elif - for loop
	IV	practical programs - Ex1_2.
FEB	II	while loop - break - continue pass
	III	Strings - Files - Errors and exceptions
	IV	practical programs 3 - 5
Mar	I	Random - string encoding - More on for loops
	II, III	practical programs - practical Exam

Month	Week	portions covered
Mar	IV	containers - List - Set - Tuples - Dictionary
Apr	I, II	multidimensional list - More on control structures
	III	Namespaces and Modules Local variables
	IV	Revision
May	I	Revision

Semester Plan

Subject Name : Java Programming

Subject Code : UCCAQ17

Month	Week	Portions.
January	I	Introduction to Java - features of Java - Object Oriented Concepts - Lexical issues.
	II	Data types - Variables - Operators - Type Conversion and casting - Control Statements.
	III	Arrays - Strings - Classes - Objects - Constructors.
	IV	Overloading method - Access Control - Static and fixed method - Inner class.
February	I	String Class - Inheritance - Overriding method - using Super - Abstract class.
	II	Input/output exploring java i/o - Java I/O classes and Interfaces.
	III	File - The Stream classes - Packages.
March	II	Access Protection - Importing Packages - Interfaces.
	III	Exception handling - try-catch - throw and throws - finally.
	IV	Thread - multithreading - Create - a thread - thread is Alive, join and

Month	Week	Portions
April	I	Synchronization - Deadlock event handling.
	II	Java Applet and Interfaces - getDocumentbase( ).
	III	getcodebase ( ) - AudioClip Interface.
	IV	working with windows using Awt Classes - Awt Controls - Layout managers and menus.
May	I	Revision.

Subject Code: PCCSF20

Subject Name: Machine Learning

Month	WEEK	Portions
January	I	Introduction to machine Learning - well posed Learning Problems - designing a learning System - Perspectives and issues in machine Learing.
	II	Choosing training experience - target function - Essential libraries and tools - Jupyter notebook - Numpy - Scipy - matplotlib - Pandas.
	III	Limitations of inference machines - Approximation and estimation errors - Simple applications.
	IV	Inductive bias and bias - Variance tradeoff.
February	I	Concept learning and general to Specific Ordering - Introduction - Concept learning task.
	II	Inductive Learning hypothesis - Concept learing as search - find S - finding a maximally Specific hypothesis.
	III	Representation - Inductive bias - Learing theory - hypothesis and target class.
March	II	Supervised learning - learning a class from Examples - Chervonenkis dimension - Probably approximately correct learing.

Month	WEEK	Portions
	III	Noise – Learning multiple classes. Linear Separability and decision regions – Linear discriminants.
	IV	Linear regression – Standard and Stochastic gradient descent.
April	I	Regression – model Selection and Generalization.
	II	Decision tree learning – Introduction – decision tree representation – Appropriate Problems for decision tree learning.
	III	Dimensionality reduction and feature Selection – Parametric methods Introduction – Evaluating and estimation
	IV	Bias and Variance – Bayes estimator Parametric classification – evaluation Performance evaluation metrics – Roc Curves – Validation methods.
May	I	Revision.

Subject Name : Software Engineering
Subject Code : UCCAN17

WEEK	Portions to be Covered	References	Platform (LMS)
July II	Introduction - Computer based System engineering - Emergent System Properties.	Ian Sommerville, "Software Engineering", Addison wesley, Pearson Education Limited. http://www.youtube.com/watch?v=SB2iQSVxCGO.	Google meet and Google classroom.
III	System and their Environment - System modelling - System Engineering Process.	Ian Sommerville - Software Engineering Pearson Education Limited. https://www.youtube.com/watch?v=EaP9kmIz_6K.	Google meet and Google Classroom.
IV	System Procurement - Software Processes - Software Process models - Process iteration.	Ian Sommerville - Software Engineering Pearson Education Limited. https://www.youtube.com/watch?VUL HIQUILC29F QeOX-JtbeV meeDhe.	Google meet and Google Classroom
V	Software Design and Implementation - Software Validation - Software Evolution - Automated Process Support.	Ian Sommerville - Software Engineering, Pearson Education Limited.	Google meet and Google Classroom.
Aug I	Project Management - Management activities - Project Planning - Project Scheduling - Risk Management.	Ian Sommerville - Software Engineering, Pearson Education Limited. https://www.youtube.com/watch?v=ay49XB2YQZE.	Google meet and Google Classroom.
I	Software Requirement - functional and non functional requirement - User requirement -	Ian Sommerville - Software Engineering, Pearson Education	Google meet and Google Classroom

Aug 1	Project Management – Management activities – Project Planning – Project Scheduling – Risk Management.	Ian Sommerville – Software Engineering, Pearson Education Limited. https://www.youtube.com/watch?v=ayHqXBzYQZE.	Google meet and Google Classroom.
II	Software Requirement – functional and non functional requirement – User requirement – System requirements Software requirement documents.	Ian Sommerville – Software Engineering, Pearson Education Limited. https://www.youtube.com/watch?v=ayHqXBzYQZE.	Google meet and Google Classroom.
I	Requirement Engineering – Processes – Feasibility Study – Requirement Elicitation and Analysis.	Ian Sommerville – Software Engineering – Pearson Education Limited. Wesley Pearson	Google meet and Google Classroom.
	Requirement Validation – Requirement management – System model – Context model –	Ian Sommerville – Software Engineering Pearson Education Limited.	Google meet and Google Classroom.
P	Behaviour models – Data model – Object model.	Ian Sommerville – Software Engineering – Addison Wesley Pearson Education Limited 2011.	Google meet and Google Classroom.

WEEK	Portions to be Covered	References	Platform
II	Architectural Design - Architectural design decision - System Organization.	Ian Sommerville - Software Engineering Addison Wesley - Pearson Education Limited 2011.	Google meet and Google classroom.
III	Modular Decomposition Styles - Control Styles - User interface design.	Ian Sommerville Software Engineering Addison wesley - Pearson Education Limited 2011.	Google meet and Google classroom.
IV	Design issues - User interface design Process.	Ian Sommerville - Software engineering Addison wesley Pearson Education Limited 2011.	Google meet and Google classroom.
V	User Analysis - User Interface Prototyping - Interface evaluation.	Ian Sommerville Software Engineering Addison wesley Pearson Education Limited 2011.	Google meet and Google classroom
ct	Software Testing - System testing - Component testing.	Ian Sommerville "Software Engineering" Addison wesley Pearson education Limited 2011 -	Google meet and Google classroom.
II	Test Case Design - Test Automation - Software Cost estimation - Productivity.	Ian Sommerville "Software Engineering" Addison wesley Pearson education Limited 2011.	Google meet and Google classroom.

IV	Estimation Techniques – Algorithmic Cost modelling.	Ian Sommerville "Software Engineering" Addison Wesley Pearson Education Limited 2011.	Google meet and Google Classroom.
V	Project duration and Staffing – Process improvement CMMI.	Ian Sommerville "Software Engineering" Addison Wesley Pearson Education Limited 2011. https://www.youtube.com/watch?v=xymzImaSQZO.	Google meet and Google Classroom.
NOV I	Revision	-	Google meet and Google Classroom.

Subject Name : Java Programming Subject Code : PCCSA20

WEEK	Portions to be Covered	Reference	Platform(LMS)
Oct II	Introduction to Java - features of java - Constructors - Exception handling : try, Catch - Throw and Throws.	Herbert Schildt "The Java Complete reference" Tata McGraw Hill Publishing. https://www.youtube.com/watch?v=IL2PXcIfmnQ	Google meet and Google Classroom.
III	Multithreading - Java AWT - Working with Graphics - font - Color - Networking - Networking basics.	Herbert Schildt "The Complete Reference Java" Tata McGraw Hill Publishing.	Google meet and Google Classroom.
IV	Networking Classes and Interface - InetAddress - factory methods - Instance methods - InetAddress and Inet6Address.	Herbert Schildt "The Complete Reference Java" Tata McGraw Hill Publishing.	Google meet and Google Classroom.
V	TCP/IP Client Sockets - Cookies - URL - URL Connection - HTTP URL Connection - URI Class.	Herbert Schildt "The Java Complete reference" Tata McGraw Hill Publishing https://www.youtube.com/watch?v=QLVDf30ZBPE.	Google meet and Google Classroom.
NOV I	Swing - Jfc - Features of Swing - Swing Components - working with Swing - Event handling using Swing.	Herbert Schildt "The Java Complete reference" Tata McGraw Hill Publishing.	Google meet and Google Classroom.
II	Exploring Swing : Jlabel and Jtextfield - The Swing buttons - Trees.	Herbert Schildt "The Java Complete reference" Tata McGraw Hill Publishing". https://www.youtube.com/watch?v=28tIoAP4Ac	Google meet and Google Classroom.
	Java.Sql Package - Data manipulation -	Dan Bartoss (2013) : web	

NOV I	Swing - Jfc - features of Swing - Swing Components - working with Swing - Event handling using Swing.	Herbert Schildt "The Java Complete reference" Tata McGraw Hill Publishing.	Google meet and Google Classroom.
II	Exploring Swing : Jlabel and Jtextfield - The Swing buttons - Trees.	Herbert Schildt "The Java Complete reference". Tata McGraw Hill Publishing". https://www.youtube.com/watch?v=8zotIaAP4Ac	Google meet and Google Classroom.
III	Java, Sql Package - Data manipulation - Data navigation - JDBc classes and Interfaces - JDBc Statement Intefaces - Connection Interface - Statement - Resultset.	Ivan Bayross (2013): web enabled Commercial applications development using Java 2 - BPB Publications. https://www.youtube.com/watch?v=IcNgSOONz_0.	Google meet and Google Classroom.
IV	RMI - Introduction - RMI Architecture - RMI for distributed Computing - working of an RMI application - Marshaling and unmarshaling - RMI registry - Goals of RMI - working RMI application - Defining remote interface - Simple Programs.	Ivan Bayross (2013). web enabled Commercial applications development using Java 2 - BPB Publications. https://www.youtube.com/watch?v=lcy1uPefSyU.	Google meet and Google Classroom.

Dec I	Working Servlets - Background - Life cycle Of Servlets - Servlet Architecture - Servlet API - Javax Servlet Packages - Creating Servlets - Reading Servlet Parameters - Javax.Servlet.http Package - Handling HTTP request and response - Simple Programs.	Herbert Schildt (2019). Java - The Complete Reference Java - Tata mc-Graw Hill Publishing. https://www.youtube.com/watch?v=CRVCm7GkrfO.	Google Classroom.
II	JSP: Introduction and marketplace - JSP and HTPP - JSP engines - JSP works - Anatomy Of JSP Page - Life Cycle Of JSP - JSP in IDE - JSP expressions - Declarations - Scriptlet - Expression.	Phil Hanna (2013). The Complete reference JSP 2.0. Tata mc.Graw Hill Publishing.	Google meet and Google classroom.
III	Directive elements - Page - include - Taglib directive - Action element - Inserting applet into JSP - Accessing a database from JSP.	Uttam K.Roy (2017). Advanced Java Programming, Oxford university Press, Third edition. https://www.youtube.com/watch?v=XxGfIkwvJTY.	Google meet and Google Classroom.
IV	EJB: Introduction to EJB - EJB fundamentals - EJB Architecture - EJB roles - J2EE Architecture - ERP Concepts J2EE Platform - HTTP Protocol - Web applications.	Phil Hanna (2013). The Complete reference JSP 2.0 - Tata MCGraw Hill Publishing. Uttam K.Roy (2017). Advanced Java Programming Oxford University Press, Third edition.	Google meet and Google Classroom.
V	Web Containers and application Servers - Java web frameworks - Spring, MVC, Overview of Spring - Spring Architecture - Hibernate architecture.	Phil Hanna (2013). The Complete reference JSP 2.0 Tata MCGraw Hill Publishing. https://www.youtube.com/results?search_query=hibernate.	Google meet and Google Classroom.

	EJB: Introduction to EJB – EJB fundamentals – EJB Architecture – EJB roles – J2EE Architecture – ERP Concepts J2EE Platform – HTTP Protocol – Web applications.	Phil Hanna (2013). The Complete reference JSP 2.0 – Tata McGraw Hill Publishing. Uttam K. Roy (2017). Advanced Java Programming, Oxford University Press, Third edition.	Google meet and Google Classroom.
V	Web Containers and application Servers – Java Web frameworks – Spring, MVC, Overview of Spring – Spring Architecture – Hibernate architecture.	Phil Hanna (2013). The Complete reference JSP 2.0 Tata McGraw Hill Publishing. https://www.youtube.com/results?search_query=hibernate.	Google meet and Google Classroom.

AUXILIUM COLLEGE (AUTONOMOU)
Lesson Plan for the year 2020 – 2021

Subject: DATA STRUCTURES
Subject Code: UCCAG19

Week	Portions to be covered	Reference	Platform (LMS)
JULY II	Introduction - Data structure operations - Complexity and Time Space of Algorithms	Seymour Lipschutz, "Data Structures: Schaum's Outline Series", Revised Edition, McGraw Hill Publication, 2011. https://www.youtube.com/watch?v=-q-3b_093do https://www.youtube.com/watch?v=xvJF-yANkzs&t=54s	Google Meet and Google Classroom
III	Mathematical Notation and Functions - Algorithmic Notation	Seymour Lipschutz, "Data Structures: Schaum's Outline Series", Revised Edition, McGraw Hill Publication, 2011.	Google Meet and Google Classroom
IV	Control Structures - Complexity of Algorithms- Sub Algorithms	Seymour Lipschutz, "Data Structures: Schaum's Outline Series", Revised Edition, McGraw Hill Publication, 2011.	Google Meet and Google Classroom
V	Variables - Data Types - String Processing: Basic Terminology	Seymour Lipschutz, "Data Structures: Schaum's Outline Series", Revised Edition, McGraw Hill Publication, 2011.	Google Meet and Google Classroom
AUG I	Storing Strings - Character Data Type - String Operations.	Seymour Lipschutz, "Data Structures: Schaum's Outline Series", Revised Edition, McGraw Hill Publication, 2011.	Google Meet and Google Classroom
II	Linear Arrays Representation in Memory - Traversals	Seymour Lipschutz, "Data Structures: Schaum's Outline Series", Revised Edition, McGraw Hill Publication, 2011.	Google Meet and Google Classroom
III	Inserting and Deleting -	Seymour Lipschutz, "Data Structures: Schaum's Outline Series", Revised Edition, McGraw Hill Publication, 2011.	Google Meet and Google Classroom
IV	Sorting-Searching	Seymour Lipschutz, "Data Structures: Schaum's Outline Series", Revised Edition, McGraw Hill Publication, 2011.	Google Meet and Google Classroom

		https://www.youtube.com/watch?v=18OO361--1E https://www.youtube.com/watch?v=NfUTAymEfvQ	
SEP I	Multidimensional Arrays - Pointer Arrays.	Seymour Lipschutz, "Data Structures: Schaum's Outline Series", Revised Edition, McGraw Hill Publication, 2011.	Google Meet and Google Classroom
II	Linked Lists: Representation in Memory - Traversing a Linked List - Searching - Garbage Collection	Seymour Lipschutz, "Data Structures: Schaum's Outline Series", Revised Edition, McGraw Hill Publication, 2011. https://www.youtube.com/watch?v=xiIoa2rfAaQ	Google Meet and Google Classroom
III	Insertion and Deletion - Headers	Seymour Lipschutz, "Data Structures: Schaum's Outline Series", Revised Edition, McGraw Hill Publication, 2011.	Google Meet and Google Classroom
IV	Two Way Lists - Application Stacks - Array Representation - Arithmetic Expressions	Seymour Lipschutz, "Data Structures: Schaum's Outline Series", Revised Edition, McGraw Hill Publication, 2011. https://www.youtube.com/watch?v=1SWr7q121gc	Google Meet and Google Classroom
V	Recursion – Queues - Application Circular queues - Priority Queues.	Seymour Lipschutz, "Data Structures: Schaum's Outline Series", Revised Edition, McGraw Hill Publication, 2011. https://www.youtube.com/watch?v=UpvDOm3prfI	Google Meet and Google Classroom
OCT II	Trees - Binary Trees - Representation in Memory	Seymour Lipschutz, "Data Structures: Schaum's Outline Series", Revised Edition, McGraw Hill Publication, 2011. https://www.youtube.com/watch?v=ikPPdBDZnz4	Google Meet and Google Classroom
III	Tree Traversals - Binary Search Trees - Searching Inserting and Deleting	Seymour Lipschutz, "Data Structures: Schaum's Outline Series", Revised Edition, McGraw Hill Publication, 2011.	Google Meet and Google Classroom
IV	Path Lengths - General Trees- Graphs - Sequential Representation.	Seymour Lipschutz, "Data Structures: Schaum's Outline Series", Revised Edition, McGraw Hill Publication, 2011. https://www.youtube.com/watch?v=gXgEDyodOJU	Google Meet and Google Classroom

V	Adjacency Matrix - Path Matrix - Heap Sort	Seymour Lipschutz, "Data Structures: Schaum's Outline Series", Revised Edition, McGraw Hill Publication, 2011.	Google Meet and Google Classroom
NOV I	Warshall's Algorithm for Shortest Path - Linked Representation - Graph Traversals – Hashing	Seymour Lipschutz, "Data Structures: Schaum's Outline Series", Revised Edition, McGraw Hill Publication, 2011.	Google Meet and Google Classroom

Subject: PRACTICAL IV: DATA STRUCTURES AND ALGORITHMS
Subject Code: UCCAK19

EX.NO	WEEK	TOPICS	PLATFORM (LMS)
1	**JULY IV**	Implementing PUSH, POP operations of Stack using Arrays.	Google Meet and Virtual Lab Software
2	**V**	Implementing add, delete operations of a Queue using Arrays.	Google Meet and Virtual Lab Software
3	**AUG I**	Implementing Infix to Postfix conversion of an expression using Stack.	Google Meet and Virtual Lab Software
4	**II**	Implementing Binary tree traversals (inorder, preorder, postorder).	Google Meet and Virtual Lab Software
5	**III**	Implementing Polynomial addition using linked list.	Google Meet and Virtual Lab Software
6	**IV, SEP I**	Implementing the following graph traversal algorithms: a) Depth first traversal b) Breadth first traversal	Google Meet and Virtual Lab Software
7	**II**	Implementing Merge sort using Divide and Conquer Technique.	Google Meet and Virtual Lab Software
8	**III**	Implementing Travelling Salesman problem using Dynamic Programming technique.	Google Meet and Virtual Lab Software
9	**IV**	Implementing Hashing - any two Collision techniques.	Google Meet and Virtual Lab Software
10	**OCT I**	Implementing Knapsack problem	Google Meet and Virtual Lab Software

Subject: WEB SERVICES
Subject Code: PCCSL19

Week	Portions to be covered	Reference	Platform (LMS)
JULY II	Evolution of Distributed Computing: Basics of Distributed Computing - Evolution of Middleware	R.Nagappan, R. Skoczylas, R.P. Sriganesh(2014). "Developing Java Web Services", Wiley India.	Google Meet and Google Classroom
III	The importance of Distributed Computing – Web Service Architecture - Client Server Applications.	R.Nagappan, R. Skoczylas, R.P. Sriganesh(2014). "Developing Java Web Services", Wiley India.	Google Meet and Google Classroom
IV	CORBA – Java RMI - Microsoft DCOM	R.Nagappan, R. Skoczylas, R.P. Sriganesh(2014). "Developing Java Web Services", Wiley India.	Google Meet and Google Classroom
V	Message Oriented Middleware - Common Challenges in Distributed Computing	R.Nagappan, R. Skoczylas, R.P. Sriganesh(2014). "Developing Java Web Services", Wiley India.	Google Meet and Google Classroom
AUG I	The Emergence of Web Services – SOA – Architecture	R.Nagappan, R. Skoczylas, R.P. Sriganesh(2014). "Developing Java Web Services", Wiley India.	Google Meet and Google Classroom
II	Introduction to Web Services: What are Web Services? Motivation and Characteristics	R.Nagappan, R. Skoczylas, R.P. Sriganesh(2014). "Developing Java Web Services", Wiley India.	Google Meet and Google Classroom
III	Use of Web Services - Basic Operational Model of Web Services - Core Web Services Standards	R.Nagappan, R. Skoczylas, R.P. Sriganesh(2014). "Developing Java Web Services", Wiley India.	Google Meet and Google Classroom
IV	Other industry Standards Supporting Web Services Challenges in Web Services-	R.Nagappan, R. Skoczylas, R.P. Sriganesh(2014). "Developing Java Web Services", Wiley India.	Google Meet and Google Classroom
SEP I	Web Services Software and Tools- Benefits of Web Services.	R.Nagappan, R. Skoczylas, R.P. Sriganesh(2014). "Developing Java Web Services", Wiley India.	Google Meet and Google Classroom
II	Web Services Architecture and Technologies: Building the Web Service Architecture – Web Service	R.Nagappan, R. Skoczylas, R.P. Sriganesh(2014).	Google Meet and Google Classroom

	Architecture and its Core Building Blocks	"Developing Java Web Services", Wiley India.	
III	Tools of the Trade - SOAP-WSDL-UDDI - Web Services Communication Models - RPC Based Communication Models - Messaging Based Communication Model - Implementing Web Services	R.Nagappan, R. Skoczylas, R.P. Sriganesh(2014). "Developing Java Web Services", Wiley India.	Google Meet and Google Classroom
IV	To develop java based Web Services - Developing Web Services using J2EE - Description and Discovery of Web Services: Web Services Description Language (WSDL)-Universal Description, Discovery, and Integration (UDDI).	R.Nagappan, R. Skoczylas, R.P. Sriganesh(2014). "Developing Java Web Services", Wiley India.	Google Meet and Google Classroom
V	Serialization - Developing Web Services using SOAP: XML based Protocols and SOAP - Anatomy of a SOAP Message - SOAP Encoding	R.Nagappan, R. Skoczylas, R.P. Sriganesh(2014). "Developing Java Web Services", Wiley India.	Google Meet and Google Classroom
OCT II	SOAP Message Exchange Protocol - SOAP Communication - SOAP Messaging - SOAP Bindings for Transport Protocols - SOAP Security - Building SOAP Web Services.	R.Nagappan, R. Skoczylas, R.P. Sriganesh(2014). "Developing Java Web Services", Wiley India.	Google Meet and Google Classroom
III	Creating .NET Interoperability: Means of Ensuring Interoperability	R.Nagappan, R. Skoczylas, R.P. Sriganesh(2014). "Developing Java Web Services", Wiley India.	Google Meet and Google Classroom
IV	Microsoft .NET Framework: An Overview - Challenges in Creating Web Services Interoperability.	R.Nagappan, R. Skoczylas, R.P. Sriganesh(2014). "Developing Java Web Services", Wiley India.	Google Meet and Google Classroom
V	XML Processing and Data Binding with Java API's: XML Basics - Java Architecture for XML Binding	R.Nagappan, R. Skoczylas, R.P. Sriganesh(2014). "Developing Java Web Services", Wiley India.	Google Meet and Google Classroom
NOV I	Data Binding Generation - Marshalling XML - Unmarshalling Java - Sample Code for XML Data Binding.	R.Nagappan, R. Skoczylas, R.P. Sriganesh(2014). "Developing Java Web Services", Wiley India.	Google Meet and Google Classroom

Subject: PRACTICAL V: WEB SERVICES LAB
Subject Code: PCCSO19

EX.NO	WEEK	TOPICS	PLATFORM (LMS)
1	**JULY IV**	Write a program to implement WSDL Service.	Google Meet and Virtual Lab Software
2	**V**	To create a simple Web application using Web services in Java.	Google Meet and Virtual Lab Software
3	**AUG I**	To write a factorial application program using Web services in java.	Google Meet and Virtual Lab Software
4	**II,III**	To implement calculator (+---*-/) web application.	Google Meet and Virtual Lab Software
5	**IV**	Web Service creation using .NET.	Google Meet and Virtual Lab Software
6	**SEP I, II**	Develop a J2EE client to access a .NET Web Service.	Google Meet and Virtual Lab Software
7	**III , IV**	Write a program the service provider can be implement a single getprice(), staticbind() and getproduct () operation.	Google Meet and Virtual Lab Software
8	**OCT I, II**	Write a program to implement the operation can receive request and will return a response in two ways: a)One-Way operation b) Request - Response	Google Meet and Virtual Lab Software

Week / Date	No. of Hours	Units	Topics	Teaching Methodology & Student Centric Methods	Learning Resources	Method of Evaluation
Nov III	7	unit I	Introduction: Digital Computers - Logic Gates - Boolean Algebra - Map simplifications	Black board teaching and solving problem in different simplification	Text Book - M. Morris mano Reference - Vincent P. Heuring & Harry F. Jordan	Hands on experiences, Black board test.
Nov IV	5	I	Combinational Circuits - Flip Flops (SR - D - JK - T) - Decoders - Multiplexers - Registers - Shift Registers	Scripted lesson plans & conversing of various Flip flops, Multiplexers & Registers	Text Books - M. Morris Mano	Questionnaire
Dec I	8	I	Binary counters - Data types - Compcements - Other Binary codes	Black board teaching & solving problem in compcements	Text Book - M. Morris Mano Reference - Vincent P. Heuring & Harry F. Jordan	Work out Problems in Black Board,

Week/ Date	No. of. Hours	units	Topics	Teaching Methodology & Student Centric Methods	Learning Resources	Method of Evaluation
Dec II	7	II	Basic computer organization and design: Instruction codes: computer Registers	BB & understand the basic of CoA and various Instructions.	M. Morris Mano Text books.	Pre-Post Study of Basics of COA.
III	6	II	Computer Instructions - Timing and control - Instruction cycle	BB & comprehend the needs of Timing & control, cycle	Text BOOKs - M. Morris Mano	Questionnaire
Jan I	5	II	Memory Reference Instruction- Input output & Interrupt	BB & scripted of various Reference instruction	Text BOOKs - M. Morris Mano	
Jan IV	6	III	Programming the Basic Computer Introduction- Machine Language - Assembly language	PPT & expose the students to the concept of basic computer	Text BOOKs - M. Morris Mano, E-resource	Speeches Analysis of Basic computers
V	7	III	The Assembler - central processing units : Introduction General Registers.	BB & Assess of various Registers	Text BOOKs - M. Morris Mano	Drill and Practice

Organization - Instruction and instruction Formates

Formats.

Reference - Vincent P. Heuring

			Organization - Instruction Formats.	and Instruction Formates	Reference - Vincent P. Heuring	
Feb I	5	III	Addressing modes - CISC and RISC characteristics	BB & Able to define of CISC & RISC, Find the Various addressing modes	Text Books - M. Morris Mano Reference - tutorial Points. Com	Oral test, paired comparsion
Feb II	5	IV	Input output organization: peripheral Devices - Input /output Interface	BB & Grasp the different secondary Storage device, Clasp the Standard Ilo interface	Text Books - M. Morris Mano E-resource - geeksfor geeks, tutorial Pointe.	Questionnaries
III	7	IV	Asynchronous Data transfer- Modes of Transfer	use of text books & Asses of various transfers.	Text Books - M. Morris Mano Reference - William stallings	Identify the Various Transfer. Kines Thetic learning.

Week/ Date	No. of Hours	units	Topics	Teaching Methodology & Student centric Methods	Learning Resources	Method of Evaluation
Feb IV	6	IV	Priority Interrupts - DMA	Scripted lessons & clutch the Interrupts & DMA	Text Books - M. Morris Mano References - William Stalling	Open Book test, Reflection Journal about topics
Mar II	4	V	Memory Hierarchy - Main Memory	Scripted lessons & familiarize the students with Hierarchy memory System. BB / PPT	Text Books - M. Morris Mano. Reference - William Stalling	Pre - Post Study with comparison previous unit
III	6	V	Auxiliary Memory - Associative Memory		Text Books - M. Morris Mano Reference - Slideshare, tutorialpoints	Questionnaires
IV	6	V	Cache Memory - Virtual Memory	BB / PPT	Text Books - M. Morris Mano reference Slideshare, tutorialpoints	Paired comparison of various Memory

LESSON PLAN

Programme	M. Sc. Computer Science
Programme Code	PIS
Semester	II
Course	Open Source Programming
Course Code	PCCSGI9
Hours	04
Credits	04
Total Hours	60
Max. marks	40 + 60
Course Instructor/ Co-ordinator	Ms. Parithra R.

Week/ Date	No. of. Hours	units	Topics	Teaching Methodology & student centric Methods	Learning Resources	Methods of Evaluation
NOV IV	4	I	Installing And configuring PHP: The Basics of PHP Scripts - The Building Blocks of PHP: Variables - Data types - Operators and Expression - constants.	Scripted lessons & Basic of PHP Scripts	Text BOOK - Julie C. Meloni, Ivan Bayross	Questionnaires
IV	5	I	Flow control functions - switching Flow - loops - codes Blocks and Browser output. Working with Functions: variable scope - saving State Between Function calls with the Static statements.	BB & conversing of various loops, Functions	Text BOOK - Julie C. Meloni, Ivan Bayross.	Pre - Post Study of
Dec I	4	I	More about arguments - Testing for the Existence of a Function. Working with arrays - Creating arrays - Some array Related Constructs and Functions	BB & Conversing of various Arrays.	Text BOOK - Julie C. Meloni, Ivan Bayross	Assessments

Week/ Date	No. of. Hours	Units	Topics	Teaching methodology & Student Centric Methods	Learning Resources	Method of Evaluation
Dec II	5	II	Working with objects: Creating an object - Object Inheritance. Working with strings - date & time - formatting strings with PHP - using date & time functions in PHP - other strings date and time functions.	BB, LCD / understand the concepts of various string formats & date/time.	Text BOOK - Julie C. Meloni, Ivan Bayross	Questionnaries
III	4	II	Working with Forms: Creating a sample Input form - accessing form Input with user-defines arrays - Combining HTML and PHP code on a single page working with file uploads	BB, LCD / expose the students to the concepts of forms.	Text BOOK - Julie C. Meloni Ivan Bayross.	Assessment
Jan I	6	II	Working with cookies and user sessions - Introducing cookies - setting and deleting a cookie with PHP - session function overview - Starting a session - working with session variables - destroying session & unsetting variables - using	BB, LCD / Familiarize the students with the COOKies & Session concepts	Text BOOK - Julie C. Meloni, Ivan Bayross	Question

			unsetting variables - using sessions in an environment with registered users.	concepts		
Jan IV	4	III	Working with files and Directories including files - using include - once - validating files - Creating and deleting files - opening a file for writing - reading or apperding	BB/LCD & clutch the file concepts	Text Book - Julie C. Meloni Ivan Bayross	Pratice / Questionnaires
V	3	III	Reading from files - writing or appending to a file - working with directories - working with images.	BB/LCD & ADLe to working with directories	Text Book - Julie C. Meloni Ivan Bayross	Pratice / Questionnaires
Feb I	4	III	understanding the Image Creation Process - necessary modifications to PHP - drawing a new image - modifying existing images - Image creation from user input - using Images created by Scripts.	use of text Books & Grasp the different Image methods	Text Book - Julie C. Meloni Reference - An Bayross	Questionnaires, Assesments
II	4	IV	Learning Basics SQL commands: Learning the MySQL data types - Learning the table creation syntax - using DDL & DML	use of text Books & learn the basic of MySQL cmd	Text Book - Julie C. Meloni Reference: An Bayross.	Chalk & talk

Week / Date	No. of Hours	Units	Topics	Teaching Methodology & Student Centric Methods	Learning Resources	Method of Evaluation
III	3	IV	Frequently used String functions in MySQL - Using Date & Time functions in MySQL	Use of text Books & know the Date, time & String function in mysql	Text Book - Julie C. Meloni Reference - Anbayross	Chalk & talk
IV	5	IV	Interacting with MySQL Using PHP: MySQL or MySQLi function - connecting to MySQL with PHP - Working with MySQL data	Use of text Books & Assess the various MySQLi functions.	Text Book - Julie C. Melone Reference - Bayross	Chalk & talk
May II	3	V	Case study: Creating a shopping Cart mechanism. An Overview of Red Hat Linux - what is Linux ? - Common Linux features. advantages of Linux.	Scripted lesson & understand the Basic of linux	Text Book - Christopher Negus.	Questionnaires
III	4	V	Using Linux commands: Shell Interface - understanding the Red Hat linux shell	BB / LCD / Know about the various shell commands	Text Book - Christopher Negus.	Questionnaires
IV	3	V	Working with the Red Hat Linux file system - using the vi text editor.	BB / LCD & conversing the various text editors.	Text Book - Christopher Negus.	Questionnaires

LESSON PLAN

Program	UG.
Semester	V
Course	RDBMS
Course code	UCEARI7
Max Marks	100

WEEK	PORTIONS TO BE COVERED	REFERENCE	PLATFO
July II	Databases & database users characteristics & the database approach.	R. Elamasri, S.B. Navathe - Fundamentals & DB systems "7th edition - 2011.	Google Classro Google M
III	Database System concepts & architecture data model Schema & instances.	R. Elamsri, S.B. Navathe - Fundamentals & DB systems 7th edition - 2011	"
IV	The database system environment classification & database Mgmt systems Relational model - structure & Relational DB. update operations - transaction & dealing with constraint violation.	"	"

Week	Portions to be covered	Reference	Platform
Aug I	Introduction to SQL: SQL Data definition Basic Structure - Specifying constraints in Sql. basic retrival queries in SQL. insert delete & update	R. Elamasri, S. B. Navathe - "Fundamentals of DB" 7th edition 2011.	Google classroom - G. Meet
II	additional features of SQL, complex queries - triggers - views - & schemas Modification	R. Elamasri, S. B. Navathe - "Fundamentals of DB" 7th edition 2011	Google classroom & G. Meet
III	More complex Sql Retrival queries - specify constrains & Assertions & actions as triggers - view in sql - schema change stmt in sql.	"	"
IV	The Relational Algebra & calculus: unary Operations: select & project - Relational Algebra from set-theory - Binary Relational operation: Join & division - additional Relational Operation - Example & queries in Relational Algebra	R. Elamasri, S. B. Navathe - "Fundamentals of DB" 7th edition 2011	"
Sep I	The tuple Relational calculus - The domain Relational calculus. Revision	"	"
II	Data Modeling using the entity Relationship using High level Conceptual	"	"

	Data Models for DB design - Entity types - entity sets - Attributes & Keys.		
III	Relationship Types - Relationship set - Roles & structural constraints - Weak Entity types - ER Diagrams - Naming Conventions & Design Issues - The enhanced Entity - Relationship Model: Subclasses & Superclasses & inheritance.	R. Elamasri S. B, Navathe - "Fundamentals of DB" 7th edition - 2011	Google Classroom
IV	Specialization & Generalization - constraints & characteristics of Specialization & Generalization Hierarchies - Modeling & UML Types Using Categories - Relational DB Design By ER And EER Model constructs Relations.	"	"
Oct 7	Basics & functional dependencies & normalization for relational DB: Informal design guidelines for relational Schemas - 10.	R. Elamasri. S. B. Navathe - "Fundamentals of DB" 7th Edition - 2011	"
11	Normal forms based on primary key general definitions &	"	"

	Second & third normal forms - Boyce codd normal form - Multivalued dependency & 4th Normal form join dependencies & 5th normal form.		
III	Further topics in FD: inference Rules - Equivalence - & Minimal Cover - properties of Relational Decompositions - Algorithms for Relational DB Schema design - about nulls.	R. Elamasri, S. B. Navathe "Fundamentals of DB Systems" 7th edition - 2011	Google Meet, Google Classroom
IV	Dangling tuples & alternative relational designs - multivalued dependencies & 4NF - other dependencies & Normal forms. overview of PL/SQL - Procedural Constructs of PLSQL.	R. Elamasri, S. B. Navathe "Fundamentals of DB systems" 7th edition - 2011	Google Meet.
XIOV	Data types & Variables - cursors in PLSQL program units - Exception Handling - PL/SQL. Editor. Revision.	"	"

Subject Name: Practical VI : RDBMS

Subject Code: UCCAP17

Week	Portions to be Covered	Tools used	Platform
Aug I	Installation & oracle 11G & IDE : Toad for Oracle 12.0	Toad for Oracle D.O	Google classroom Google Meet
III	Implementing DDL Commands	"	"
IV	Implementing DML commands	"	"
Sep II	Implementing TCL commands	"	"
III	Generating Fibonacci series	"	"
IV	Finding Factorial of a number	"	"
Oct I	Finding Area & Perimeter of Circle	"	"
II	Student Marksheet using various PL/SQL program units	"	"
III	Payroll processing using various PL/SQL DU.	"	"
IV	Staff Information system & invoice System	"	"

Subject Name: Fundamentals of Information Technology.

Subject Code: UCCAB20

Week	Portions to be Covered	Reference	Platform
Sep II	Definition & Technological Trends in IT	Alexis Leon & Mathews Leon, Fundamentals of IT", Second edition, 2009.	Google classroom Google Meet
III	Applications of IT introduction to computers	"	"
IV	Definition - Characteristics of a computer - Classification of Computers	Alexis Leon & Mathews Leon, Fundamentals of IT, " 2nd edition, 2009	"
Oct I	Basic Anatomy of the Computer App / Uses of Computer in Different fields	"	"
II	Input devices	Alexis Leon & Mathews Leon, Fundamentals of IT" 2nd edition 2009	"
III	Basic Anatomy of the computer in different fields	"	"
IV	System Software & Difference between system software and Application software	Alexis Leon & Mathews Leon" Fundamentals of IT "2nd edition 2009	"
Nov I	computer Networks: Overview of Networks - Intranet & Extranet	"	"

Week	Portions to be covered	Reference	Platform
II	Communication Processor. Communication Media - Types & Networs: LAN, MAN, WAN, Network topologies	Alexis Leon & Mathews Leon "fundamentals of IT" 2nd Section, 2009	Google class Google Meet
III	Internet & its Application: history & Internet - Adv. & Internet access: types & internet connection - internet protocos & Servis	"	"
IV	Internet Addressing IP addres - URL - DNS - web Browse & Search engine E-mail	Mathews Leon, "fundament of IT", 2nd edition-2009	"
Dec I	OS: Evolution & OS function & OS	"	"
II	classification & OS Example & OS - DOS. Windows - UNIX - LINUX.	"	"
III	Difference between windows & DOS. difference between Linux & windows.	"	"

Lesson Plan

Subject Name: Data Mining
Subject Code: UECAE17
Course Instructor: Ms. Remitha A.
No. of hours per week: 5
Learning Outcome: Students will be able to Mine the data's in the Research field.

Week	Hours	Portions to be covered	Reference	Method & Evaluation
Jan I	5	Basic DM tasks - DM Vs kdd db - DM issues - DM Metrics - Social implications of DM	Margaret H. Dunham text book.	Black Board & PPT.
II	5	DM from a DB perspective DM techniques - statical Perspective	"	"
III	5	Similarity Measures - DT - Neural Networks - Genetic Algorithm	"	"
IV	5	classification : Introduction statical Based Algo - Distance Based Algo	"	"
Feb 1	5	Decision tree based algo - NN. Based Algo	"	"
II	5	Rule Based algorithm	"	"
III	5	Combining techniques	"	"
IV		Revision.		

March I		I CA begins		
II	5	clustering & Similarity measures & distance Measures - Outliers.	Margaret H. Dunham - DM Advanced topics 2012	Blackboard & PPT
III	"	Hierarchial Algo - Partional Algo - Associan rules Introduction to large item sets	"	"
IV	"	Basic Algorithms Parallel & distributed Algo - Comparing Approaches Incremental Rules - Advanced Associal Rules Techniques - Measuring the quality of Rules	"	"
April I	"	Web mining - Web Content Mining - Crawlers - Web Structure Mining - Web usage mining	"	"
II	"	Spatial Mining: Overview - primitives Generalization & Specialization - Spatial Rules & classification	"	"
III	"	Temporal Mining - Modeling Temporal events	"	"
IV	"	Time Series Pattern detection - Association Rules	"	"
May I	"	Revision.		

Subject Name: Python
Subject Code: UCAAD20
Course Outcome: Students will be able to Learn the basics of Python programming.
No. of hours per week: 4

Month/ week	Hours	Topic	Reference	Method of Evaluation
Jan 2	4	Computer Systems Python Programming language Computation thinking - python data types	Hubonic, Perkovic - Intro to Computing using python - 2012	Blackboard & demo
II	"	Expressions - variables & assignments - strings	"	"
III	"	List - object & classes. Python standard library.	"	"
IV	"	Imperative programming - python modules - print() function - Eval() - Execution control structures	"	"
Feb 1	"	User defined functions python variables - Assignments Parameter passing.	"	"
II	"	Text data - Exceptions - strings Revisited formatted output files	"	"

III	4	Errors & Exception - Execution ctrl structures - decision control & If statement	Ljubomir Perkovic - Intro to python Programming - 2012	Black book & d
IV		Revision		
March				
I	4	containers & randomness Dictionaries	"	"
II	"	Other Built in container types - characters Encoding	"	"
III	"	String Modules - For loop & iteration - Patterns - two dimensional	"	"
IV	"	List - while loop - More loop patterns - Additional Patterns - Namespaces	"	"
April				
I	"	Encapulation in functions global vs local		
II	"	Flow control	"	"
III	"	Modules	"	"
IV	"	Namespaces	"	"
May				
I	"	Revision		

Subject Name: Environmental Studies
Subject code: UNEVSIT

Week	hours	Topic	Methodology
Jan I	2	Definition & Environment- Scope & Importance - components & segments	Videos & PPT
II	"	Multidisciplinary nature of Environmental Studies	"
III	"	Natural Resources - Water - Land - wind - Energy - Forest	"
IV	"	Mineral Resources - Ecosystem structure & functions - Food chain - Food web - Ecological pyramids	"
Feb I	"	types of Ecosystems - Lake, Pond, Forest, Grassland	"
II	"	Desert & Ocean Ecosystem - Energy flow in ecosystem - ecological sucession.	"
III	"	Biodiversity - General terms - types of Biodiversity - India as a mega biodiversity zone	"
IV	"	Threats, Conservation & values of Biodiversity	"

March			PPT & Videos
II	2	Environmental Pollution, Air, water, Soil, Noise	
III	"	Causes & effects, Control measures- Rainwater harvesting.	"
IV	"	Watershed Management Human population & Environment. Environmental Protection Act. 1986-	"
April			
I	"	Environment agencies - Air Act 1981, water Act 1976- wildlife Protection Act 1972 -7	"
II	"	Forest Act 1980. wildlife Protection Act - 1972. General Environmental issues -	"
III	"	Global warming - climate change - Ozone layer depletion - Acid rain - sustainable development	"
IV	"	Population explosion- Role & information technology in Environmental Conservation	"

Subject Name: Cryptography & Network security
Subject Code: P

week	hours	Topic	Reference	Methodology
March II	4	Introduction to Number theory - Prime Numbers Fermat's & Euler theorm Testing for primality	Williams Stallings - cryptography NIS 5th.	Blackboard & PPT
III	"	chinese remainder theorm - Public key cryptosystem - RSA algorithm ECC	"	"
IV	"	Key Management - Diffie Hellman Key Exchange - Rijbeors	"	"
April I	"	Message Authentication & Hash functions - Authentication Requirements - Authentication functions & MACs -	"	"
II	"	Digital Signatures & DS authentication - DSS	"	"
III	"	Distributed Denial & Service Attacks	"	"
IV	"	Firewall - Design Principal - trusted Systems	"	"
May I	"	Revision		

Auxilium College (Autonomous), Gandhi Nagar, Vellore – 632 006.

Lesson Plan for the year 2020 – 2021

Staff Name : Ms A. Susai Mary Susila

Department : BCA , Shift – II

Subject: COMPUTER NETWORKS

Subject Code: UCCAO17

Week	Portions to be covered	Reference	Platform (LMS)
JULY II	Data Communications – Data Networking: - and the Internet- Data communications and networking for Today's Enterprise- Communications model – Data Communications - Networks	William Stallings – "Data and Computer Communications", 8th Edition – Pearson Education Inc., 2007.	Google Meet and Google Classroom
III	The Internet Protocol – Architecture – TCP / IP – and Internet – Based Applications – The Need for a Protocol Architecture – The TCP / IP Protocol Architecture – The OSI Model	William Stallings – "Data and Computer Communications", 8th Edition – Pearson Education Inc., 2007.	Google Meet and Google Classroom
IV	Standardization within a Protocol Architecture – Traditional Internet-Based Applications – Multimedia	William Stallings – "Data and Computer Communications", 8th Edition – Pearson Education Inc., 2007.	Google Meet and Google Classroom
V	Data Transmissions – Concepts and Terminology – Analog and Digital	William Stallings – "Data and Computer Communications", 8th Edition – Pearson	Google Meet and Google Classroom

	Data Transmission – Transmission Impairments – Channel Capacity	Education Inc., 2007.	
AUG I	Transmission Media – Guided Transmission Media - Wireless Transmission – Wireless Propagation – Line-of-Sight Transmission	William Stallings – "Data and Computer Communications", 8th Edition – Pearson Education Inc., 2007.	Google Meet and Google Classroom
II	Signal Encoding Techniques: Digital Data- Digital Signals, Digital Data – Analog Signals - Analog Signals – Analog Data	William Stallings – "Data and Computer Communications", 8th Edition – Pearson Education Inc., 2007.	Google Meet and Google Classroom
III	Digital Signals – Analog Data – Analog Signals – Digital Data Communication Techniques	William Stallings – "Data and Computer Communications", 8th Edition – Pearson Education Inc., 2007.	Google Meet and Google Classroom
IV	Asynchronous and Synchronous Transmission – Types of Errors	William Stallings – "Data and Computer Communications", 8th Edition – Pearson Education Inc., 2007.	Google Classroom
SEP I	Error Detection – Error Correction – Line Configuration	William Stallings – "Data and Computer Communications", 8th Edition – Pearson Education Inc., 2007.	Google Meet and Google Classroom
II	Data Link Control Protocols – Flow Control- Error Control – High – Level Data Link Control (HDLC)	William Stallings – "Data and Computer Communications", 8th Edition – Pearson Education Inc., 2007.	Google Meet and Google Classroom
III	Multiplexing – Frequency – division Multiplexing – Synchronous Time-Division	William Stallings – "Data and Computer Communications", 8th Edition – Pearson Education Inc., 2007.	Google Meet and Google Classroom

	Multiplexing – Statistical Time – Division Multiplexing		
IV	Asymmetric Digital Subscriber Line – xDSL – Spread Spectrum – The Concept of Spread Spectrum – Frequency Hopping Spread Spectrum – Direct Sequence Spread Spectrum- Code –Division Multiple Access	William Stallings – "Data and Computer Communications", 8th Edition – Pearson Education Inc., 2007.	Google Meet and Google Classroom
OCT I	Circuit Switching and Packet Switching – Switched Communications Networks – Circuit Switching Networks – Circuit Switching Concepts – Softswitch Architecture	William Stallings – "Data and Computer Communications", 8th Edition – Pearson Education Inc., 2007.	Google Meet and Google Classroom
II	Packet-Switching Principles – X.25 – Frame Relay – Asynchronous Transfer Mode – Protocol Architecture – ATM Logical Connections – ATM Cells – Transmission of ATM Cells – ATM Service Categories	William Stallings – "Data and Computer Communications", 8th Edition – Pearson Education Inc., 2007.	Google Meet and Google Classroom
III	Routing in Switched Networks – Routing in Packet –Switching Networks – Example: Routing in ARPANET – Least Cost Algorithms	William Stallings – "Data and Computer Communications", 8th Edition – Pearson Education Inc., 2007.	Google Meet and Google Classroom
IV	Congestion Control in Data Networks –	William Stallings – "Data and Computer	Google Meet and Google Classroom

	Effects of Congestion – Congestion Control – Traffic Management – Congestion Control in Packet –Switching Networks	Communications", 8th Edition – Pearson Education Inc., 2007.	
NOV I	Frame Relay Congestion Control – ATM Traffic Management – ATM-GFR Traffic Management.	William Stallings – "Data and Computer Communications", 8th Edition – Pearson Education Inc., 2007.	Google Meet and Google Classroom

Subject: ELECTIVE IV A: BIG DATA ANALYTICS

Subject Code: PECSG19

Week	Portions to be covered	Reference	Platform (LMS)
JULY II	Understanding Big Data : Types of Digital Data – Classification of digital data	Seema Acharya and Subhashini Chellappan (2015) "Big Data and Analytics", Wiley Publication	Google Meet and Google Classroom
III	Definition of Big Data – Challenges with Big Data	Seema Acharya and Subhashini Chellappan (2015) "Big Data and Analytics", Wiley Publication	Google Meet and Google Classroom
IV	Sudden Hype around Big Data Analytics – Classification of Analytics	Seema Acharya and Subhashini Chellappan (2015) "Big Data and Analytics", Wiley Publication	Google Meet and Google Classroom
V	Data Science – Terminologies used in Big Data Environments –Few Top Analytics tools	Seema Acharya and Subhashini Chellappan (2015) "Big Data and Analytics", Wiley	Google Meet and Google Classroom

		Publication	
AUG I	NoSQL – Types of NoSQL.	Seema Acharya and Subhashini Chellappan (2015) "Big Data and Analytics", Wiley Publication	Google Meet and Google Classroom
II	Basics of Hadoop : Introduction to Hadoop Basics – RDBMS Vs Hadoop – Distributed Computing Challenges – History of Hadoop – Hadoop Overview – Use Case of Hadoop – Hadoop Distributors	Seema Acharya and Subhashini Chellappan (2015) "Big Data and Analytics", Wiley Publication	Google Meet and Google Classroom
III	Hadoop Distributed File System – Processing data with Hadoop	Seema Acharya and Subhashini Chellappan (2015) "Big Data and Analytics", Wiley Publication	Google Meet and Google Classroom
IV	MongoDB: Introduction to MongoDB – Basics of MongoDB – Terms used in MongoDB	Seema Acharya and Subhashini Chellappan (2015) "Big Data and Analytics", Wiley Publication	Google Meet and Google Classroom
SEP I	Data Types in MongoDB – MongoDB Query Language	Seema Acharya and Subhashini Chellappan (2015) "Big Data and Analytics", Wiley Publication	Google Meet and Google Classroom
II	Cassandra : Introduction to Cassandra – Apache Cassandra – An Introduction – Features of Cassandra	Seema Acharya and Subhashini Chellappan (2015) "Big Data and Analytics", Wiley Publication	Google Meet and Google Classroom
III	Introduction to MAPREDUCE Programming – Hive : Introduction to Hive	Seema Acharya and Subhashini Chellappan (2015) "Big Data and	Google Meet and Google Classroom

		Analytics", Wiley Publication	
IV	Hive Architecture – Hive Data Types – Hive File Format - Hive Query Language – RcFile Implementation – SerDe – User Defined Functions	Seema Acharya and Subhashini Chellappan (2015) "Big Data and Analytics", Wiley Publication	Google Meet and Google Classroom
OCT I	Mining Data Streams : Stream Data Model – Sampling Data in the Stream	Jure Leskovec, AnandRajaraman & Jeffery David Ullman (2014), "Mining of Massive Datasets", Cambridge University Press. Second Edition	Google Meet and Google Classroom
II	Filtering Streams – Counting Distance Elements in a Stream – Estimating moments – Counting ones in Window – Decaying Windows	Jure Leskovec, AnandRajaraman & Jeffery David Ullman (2014), "Mining of Massive Datasets", Cambridge University Press. Second Edition	Google Meet and Google Classroom
III	Clustering : Introduction to Clustering Techniques – Hierarchical Clustering	Jure Leskovec, AnandRajaraman & Jeffery David Ullman (2014), "Mining of Massive Datasets", Cambridge University Press. Second Edition	Google Meet and Google Classroom
IV	Alogrithms – K-Means –CURE – Clustering in Non – Education Spaces	Jure Leskovec, AnandRajaraman & Jeffery David Ullman (2014), "Mining of Massive Datasets", Cambridge University Press. Second Edition	Google Meet and Google Classroom
NOV I	Streams and Parallelism – Case Study: Advertising on the Web.	Jure Leskovec, AnandRajaraman & Jeffery David Ullman (2014), "Mining of Massive Datasets", Cambridge University Press. Second Edition	Google Meet and Google Classroom

Subject:Elective – I B: Cyber Security

Subject Code: PECSB20

Week	Portions to be covered	Reference	Platform (LMS)
OCT III	Digital Securities Introduction types of attacks,Digital Privacy, Online tracking, Privacy laws,types of computer security risks	Digital Privacy and Security using Windows: A Practical Guide by Nihad Hassan, Rami Hijazi,A Press, 2017	Google Meet and Google Classroom
IV	Antivirus and other security solution – Password Secure online Browsing	Digital Privacy and Security using Windows: A Practical Guide by Nihad Hassan, Rami Hijazi,A Press, 2017	Google Meet and Google Classroom
NOV I	Email Security – IoT Security – Physical Security threads, Online anonymity anonymous networks	Digital Privacy and Security using Windows: A Practical Guide by Nihad Hassan, Rami Hijazi,A Press, 2017	Google Meet and Google Classroom
II	Tor network – I2P network – Freenet, Darknet , anonymous OS – tails – Secure file sharing – VPN - Proxy Server – Connection leak testing – Secure Search Engine, Web browser Privacy Configuration - Anonymous payment.	Digital Privacy and Security using Windows: A Practical Guide by Nihad Hassan, Rami Hijazi,A Press, 2017	Google Meet and Google Classroom
III	Disk Encryption using windows BitLocker – Disk Encryption using open source tools	Digital Privacy and Security using Windows: A Practical Guide by Nihad	Google Meet and Google Classroom

	Multitask encryption tools – attacking cryptographic systems – Countermeasures against cryptography attacks – Securing data in transit – Cloud storage encryption – Encrypt DNS traffic and Email communication – Secure IM video calls.	Hassan, Rami Hijazi,A Press, 2017	
IV	Cybercrime issues and investigation – white collar crimes – viruses and malicious code – internet hacking and cracking.	Digital Privacy and Security using Windows: A Practical Guide by Nihad Hassan, Rami Hijazi,A Press, 2017	Google Meet and Google Classroom
DEC I	Virus Attacks – Pornography – Software piracy – Intellectual Property – Mail Bombs.	Digital Privacy and Security using Windows: A Practical Guide by Nihad Hassan, Rami Hijazi,A Press, 2017	Google Meet and Google Classroom
II	Digital Evidence collection – Evidence Preservation – Email Investigation – Email Tracking – Ip tracking – Email recovery.	Digital Privacy and Security using Windows: A Practical Guide by Nihad Hassan, Rami Hijazi,A Press, 2017	Google Meet and Google Classroom
III	Recovering deleted evidences – password cracking – Digital Forensics introduction to digital forensics – Forensic software and hardware – Analysis	Digital Privacy and Security using Windows: A Practical Guide by Nihad Hassan, Rami Hijazi,A Press, 2017	Google Meet and Google Classroom

	and advanced tools – Forensic technology and practices, forensic ballistics and photography.		
IV	Face, Iris and fingerprint recognition – Audio video analysis – Windows system forensics.	Digital Privacy and Security using Windows: A Practical Guide by Nihad Hassan, Rami Hijazi,A Press, 2017	Google Meet and Google Classroom
V	Wifi Security (War – driving) – Network Forensics – Mobile Forensics – Cloud Forensics.	Digital Privacy and Security using Windows: A Practical Guide by Nihad Hassan, Rami Hijazi,A Press, 2017	Google Meet and Google Classroom

SUBJECT CODE : UCCA017 SUBJECT : COMPUTER NETWORKS

LESSON PLAN

WEEK	PORTIONS TO BE COVERED	REFERENCE	PLATFORM (LMS)
July II	Data communications - Data Networking :- and the Internet - Data Communications and networking for Today's Enterprise Communications model Data communications - networks	william stallings "Data and computer communications" 8th Edition - Pearson Education Inc, 2007	Google meet and Google classroom.
III	The Internet protocol - Architecture - Tcp/Ip - and Internet - Based Applications - The need for a Protocol Architecture - The Tcp/IP Protocol Architecture - The OSI model	william stallings - "Data and Computer communications" 8th Edition - Pearson Education, Inc 2007	Google meet and Google classroom
IV	Standardization within a protocol Architecture - Traditional Internet - Based Applications - multi - media	william stallings "Data and computer communications 8th Edition, Pearson Education	Google meet and Google classroom
V	Data Transmissions - concepts and Terminology - Analog and Digital Data Transmission Transmission Impairments - Channel capacity	"	"

Aug I	Transmission media - Guided Transmission media - wireless Transmission - wireless Propagation - Line of sight propagation	William stallings - "Data and Computer Communications", 8th Edition - Pearson Education Inc, 2007	Google meet and Google Classroom
II	Signal Encoding Techniques : Digital Data - Digital signals, Digital Data Analog signals - Analog signals - Analog Data	"	"
III	Digital signals - Analog Data - Analog signals - Digital Data communication Techniques	"	"
IV	Asynchronous and Synchronous Transmission - Types of Errors	"	"
Sep I	Error Detection - Error correction - Line Configuration	"	"
II	Data Link control protocols - Flow Control - Error Control High - level Data link control (HDLC)		

III	Multiplexing - Frequency - division multiplexing - synchron - ous Time Division multiplexing - statistical Time Division multi - plexing	William stallings - "Data and computer communications", 8th Edition - Pearson Education Inc, 2007	Google meet and Google classroom
IV	Asymmetric Digital Subscriber Line - XDSL - Spread spectrum - The Concept of Spread Spectrum - Frequency Hopping spread spectrum Direct sequence spread spectrum - code Division multiple Access	"	"
oct I	Circuit switching & Packet switching - Switched communi - cations networks - Circuit switching Networks - circuit switching concepts - Softswitch Architecture	"	"
II	Packet - switching principles - X.25 - Frame relay Asynchronous Transfer mode - Protocol Architecture - ATM logical Connections - ATM cells - Transmission	"	"

	of ATM cells - ATM Service categories		
iii	Routing in switched networks - routing in packet-switching networks - Example: Routing in ARPANET - Least cost Algorithms	William stallings - "Data and computer communications", 8th Edition - Pearson Education Inc, 2007	Google meet and Google Classroom.
iv	Congestion Control in Data Networks. Effects of congestion - congestion control - Traffic management - Congestion Control in Packet-switching Networks	"	"
Nov I	Frame Relay Congestion Control - ATM Traffic management - ATM - GFR Traffic management.	"	"

SUBJECT CODE: PECSG19 SUBJECT: Big Data Analytics

Week	Portions to be Covered	Reference	Platform (LMS)
July II	understanding Big data: Types of Digital Data - classification of digital data	Seema Acharya and Subhashini Chellappan (2015) "Big Data and Analytics", wiley Publication	Google meet and Google classroom
III	Definition of Big Data - Challenges with Big data	"	"
IV	Sudden Hype around Big data Analytics - classification of Analytics	"	"
V	Data science - Terminologies used in Big data Environments - Few Top Analytics Tools	"	"
Aug I	NoSQL - Types of NoSQL	"	"
II	Basics of Hadoop: Introduction to Hadoop Basics - RDBMS Vs Hadoop - Distributed computing challenges - History of Hadoop - Hadoop overview use case of Hadoop - Hadoop Distributors	"	"

III	Hadoop Distributed File system - processing data with hadoop	Seema Acharya and Subhashini Chella - PPan (2015) "Big Data and Analytics" wiley publication	Google meet and Google classroom.
IV	MongoDB : Introduction to MongoDB - Basics of MongoDB - Terms used in MongoDB	"	"
Sep I	Data Types in MongoDB - MongoDB Query Language	"	"
II	Cassandra : Introduction to Cassandra - Apache Cassandra - An Introduction - Features of Cassandra	"	"
III	Introduction to MAPREDUCE Programming - Hive : Introduction to Hive	"	"
IV	Hive Architecture - Hive Data Types - Hive file format - Hive query language - RcFile Implementation - SerDe - User Defined functions	"	"

OCT I	Mining Data streams: Stream Data model- Sampling Data in the Stream	Jure Leskovec, Anand Rajaraman & Jeffrey David Ullman (2014), "mining of Massive Datasets", cambridge University Press. Second Edition	Google Meet and Google classroom
II	Filtering streams - Counting Distance elements in a stream - Estimating moments - Counting ones in window - decaying windows	"	"
III	clustering : Introduction to clustering Techn' -ques - Hierarchical clustering	"	"
IV	Algorithms - K-means - CURE - clustering in non-Education spaces	"	"
NOV I	streams and Parallelism - case study : Advertising on the web	"	"

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Lesson Plan for the year 2020 – 2021

Subject: Design and Analysis of Algorithms

Subject Code: UCCAI19

Week	Portions to be covered	Reference	Platform (LMS)
JULY II	Basics Concepts: Overview of Design and Analysis of Algorithm – Introduction to Algorithm.	Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fundamentals of Computer Algorithms", 2nd Edition, Galgotia Publication Pvt.Ltd.,2009.	Google Classroom
III	System Life Cycle – PsuedoCode for Expressing Algorithms in Algorithm Specification – Performance Analysis.	Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fundamentals of Computer Algorithms", 2nd Edition, Galgotia Publication Pvt.Ltd.,2009.	Google Classroom
IV	Performance Measurement: Space Complexity, Time Complexity, Asymptotic Notation.	Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fundamentals of Computer Algorithms", 2nd Edition, Galgotia Publication Pvt.Ltd.,2009.	Google Classroom
V	Big Oh Notation, Omega Notation, Theta Notation and Little Oh Notation.	Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fundamentals of Computer Algorithms", 2nd Edition, Galgotia	Google Classroom

		Publication Pvt.Ltd.,2009.	
AUG I	Divide and Conquer: General Method – Finding the Maximum and Minimum – Merge Sort Quick Sort.	Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fundamentals of Computer Algorithms", 2nd Edition, Galgotia Publication Pvt.Ltd.,2009.	Google Classroom
II	Selection – Knapsack Problem.	Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fundamentals of Computer Algorithms", 2nd Edition, Galgotia Publication Pvt.Ltd.,2009.	Google Classroom
III	Optimal Binary Search Trees.	Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fundamentals of Computer Algorithms", 2nd Edition, Galgotia Publication Pvt.Ltd.,2009.	Google Classroom
IV	Greedy Method: General Method – Applications.	Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fundamentals of Computer Algorithms", 2nd Edition, Galgotia Publication Pvt.Ltd.,2009.	Google Classroom
SEP I	Minimum Cost Spanning Trees - Single Source Shortest Path Problem.	Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fundamentals of Computer Algorithms", 2nd Edition, Galgotia Publication	Google Classroom

		Pvt.Ltd.,2009.	
II	Dynamic Programming: General Method – Applications - All Pairs Shortest Path Problem.	Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fundamentals of Computer Algorithms", 2nd Edition, Galgotia Publication Pvt.Ltd.,2009.	Google Classroom
III	Travelling Sales Person Problem.	Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fundamentals of Computer Algorithms", 2nd Edition, Galgotia Publication Pvt.Ltd.,2009.	Google Classroom
IV	Backtracking: General Method - 8 Queens Problem.	Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fundamentals of Computer Algorithms", 2nd Edition, Galgotia Publication Pvt.Ltd.,2009.	Google Classroom
OCT II	Sum of Subsets – Graph Coloring.	Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fundamentals of Computer Algorithms", 2nd Edition, Galgotia Publication Pvt.Ltd.,2009.	Google Classroom
III	Hamiltonian Cycles – Knapsack Problem.	Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fundamentals of Computer Algorithms", 2nd Edition, Galgotia Publication Pvt.Ltd.,2009.	Google Classroom

IV	Branch and Bound: General Method, Applications – Least Cost Search.	Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fundamentals of Computer Algorithms", 2nd Edition, Galgotia Publication Pvt.Ltd.,2009.	Google Classroom
V	FIFO Branch and Bound – LC Branch and Bound Solution.	Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fundamentals of Computer Algorithms", 2nd Edition, Galgotia Publication Pvt.Ltd.,2009.	Google Classroom
NOV I	NP Hard and NP Complete Problems.	Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fundamentals of Computer Algorithms", 2nd Edition, Galgotia Publication Pvt.Ltd.,2009.	Google Classroom

Lesson Plan for the year 2020 – 2021

Subject Name: Enterprise Resource Planning

Subject Code: UECAB17

Week	Portions to be covered	Reference	Platform (LMS)
JULY II	Enterprise – An Overview of Enterprise Resource Planning.	Alexis Leon – Enterprise Resource Planning, 2nd Edition – Tata McGraw Hill Publications, 2008.	Google Classroom
III	Roles and Implementation of ERP System – Business Modelling – Integrated Data Model.	Alexis Leon – Enterprise Resource Planning, 2nd Edition – Tata McGraw Hill Publications, 2008.	Google Classroom
IV	Introduction to Enterprise Resource Planning.	Alexis Leon – Enterprise Resource Planning, 2nd Edition – Tata McGraw Hill Publications, 2008.	Google Classroom
V	Basic concepts of ERP – Risk and Benefits of ERP.	Alexis Leon – Enterprise Resource Planning, 2nd Edition – Tata McGraw Hill Publications, 2008.	Google Classroom
AUG I	ERP and Related Technologies.	Alexis Leon – Enterprise Resource Planning, 2nd Edition – Tata McGraw Hill Publications, 2008.	Google Classroom
II	ERP Functional Modules.	Alexis Leon – Enterprise Resource Planning, 2nd Edition – Tata McGraw Hill Publications, 2008.	Google Classroom
III	ERP Implementation Basic.	Alexis Leon – Enterprise Resource Planning, 2nd Edition – Tata McGraw Hill Publications, 2008.	Google Classroom
IV	ERP Implementation	Alexis Leon –	Google Classroom

	Life Cycle.	Enterprise Resource Planning, 2nd Edition – Tata McGraw Hill Publications, 2008.	
SEP I	ERP Package Selection - ERP Transition Strategies - ERP Implementation Process.	Alexis Leon – Enterprise Resource Planning, 2nd Edition – Tata McGraw Hill Publications, 2008.	Google Classroom
II	Consultants - Vendors and Employees - Success and Failure Factors of an ERP Implementation.	Alexis Leon – Enterprise Resource Planning, 2nd Edition – Tata McGraw Hill Publications, 2008.	Google Classroom
III	The ERP Business Modules: Business Modules of an ERP Package – Finance.	Alexis Leon – Enterprise Resource Planning, 2nd Edition – Tata McGraw Hill Publications, 2008.	Google Classroom
IV	Manufacturing – Human Resources – Plant Maintenance.	Alexis Leon – Enterprise Resource Planning, 2nd Edition – Tata McGraw Hill Publications, 2008.	Google Classroom
OCT II	Materials Management – Quality Management.	Alexis Leon – Enterprise Resource Planning, 2nd Edition – Tata McGraw Hill Publications, 2008.	Google Classroom
III	Marketing – Sales – Distribution and Service.	Alexis Leon – Enterprise Resource Planning, 2nd Edition – Tata McGraw Hill Publications, 2008.	Google Classroom
IV	The ERP Marketplace and Marketplace Dynamics – SAP AG.	Alexis Leon – Enterprise Resource Planning, 2nd Edition – Tata McGraw Hill Publications, 2008.	Google Classroom
V	Oracle Corportation – Peoplesoft – JD Edwards.	Alexis Leon – Enterprise Resource Planning, 2nd Edition – Tata McGraw Hill Publications, 2008.	Google Classroom

NOV I	ERP and E-Business – ERP – Internet and WWW.	Alexis Leon – Enterprise Resource Planning, 2nd Edition – Tata McGraw Hill Publications, 2008.	Google Classroom

Lesson Plan (Even Semester)

Subject Name: Operating Systems

Subject Code: UCCAN19

Month	Week	Portions
January	I	LINUX: Introduction - Brief history - UNIX Components/Architecture - Features of LINUX.
	II	Basic Commands: Directory and File Commands: Pwd, ls, cd, cp, mv, rm, mkdir, chmod.
	III	Full and Relative Path, File & Directory. Naming Conventions - wild card Characters
	IV	Shell Programming: Naming Shell Programs - Shell Variables and Arguments.
February	I	Command Line Arguments: Looping & Conditional Execution - until and case Statement.
	II	System Calls - Types of System Calls - Process Management: Process Concepts
	III	Inter Process Communication - Multithread Programming - Multithread Models
March	II	Process Scheduling - Basic Concepts - Scheduling Criteria - Scheduling Algorithms
	III	Deadlock: Deadlock Characterization - Deadlock Avoidance.
	IV	Memory Management: Background - Swapping - Contiguous Memory Allocation - Paging - Structure of the Page table.

Month	Week	Portions
April	I	Segmentation - Virtual Memory Management: Demand Paging - Page Replacement - Thrashing
	II	File System: File Concept - Access Methods - Directory Structure - Implementing file systems.
	III	File System Structure and Allocation Methods - Free space Management
	IV	Secondary Storage Structure - Disk Structure - Disk Scheduling
May	I	Revision.

Lesson Plan (Even Semester)

Subject Name: Cloud Computing

Subject code:

Month	Week	Portions
January	I	Cloud Computing Basics: Cloud Computing overview - Applications - Intranets and the Cloud.
	II	Cloud Computing Matters - Benefits.
	III	Limitations - Companies in the cloud Today
	IV	Cloud Services - Cloud Computing Technologies: Hardware & Infrastructure.
February	I	Clients - Security - Network Services - Accessing the cloud - Platform - Web Applications - Web APIs.
	II	Web Browsers - Cloud Storage - Overview - Cloud Storage Providers
	III	Standars - Applications - Client & Service.
March	II	Software as a Service - Overview - Driving forces - Company offerings - Mobile Device Integration.
	III	Google - Microsoft - Intuit Quick Base - Microsoft Online.
	IV	Developing Applications: Google - Microsoft - Intuit Quick Base - Cast Iron cloud - Bungee Connect

Month	Week	Portions
April	I	Local clouds and thin clients. Virtualization.
	II	Server Solutions - Thin clients. Migrating to the cloud: Cloud Services for Individuals.
	III	Cloud Services aimed at the mid-market.
	IV	Enterprise-class cloud offerings - Migration.
May	I	Revision

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Lesson Plan for the year 2020–2021

Subject: Practical I: C

Subject Code: UCCAA20

Week	Portions to be covered	Reference	Platform (LMS)
SEP **II**	Overview of C, Algorithm and Flowchart,	Balagurusamy, "Programming in C", 6th Edition, Tata McGraw Hill Publication, 2012.	Google Classroom, ICT Tools such as quiziz. Whiteboard.
III	Constants, Variables, Data Types.	Balagurusamy, "Programming in C", 6th Edition, Tata McGraw Hill Publication, 2012.	Google Classroom, ICT Tools such as quiziz. Whiteboard.
IV	Basic Techniques: Sum of Two numbers, Operators, Expressions.	Balagurusamy, "Programming in C", 6th Edition, Tata McGraw Hill Publication, 2012.	Google Classroom, ICT Tools such as quiziz. Whiteboard.
OCT **I**	Managing input operations, Output operations.	Balagurusamy, "Programming in C", 6th Edition, Tata McGraw Hill Publication, 2012.	Google Classroom, ICT Tools such as quiziz. Whiteboard.
II	Decision Making and Branching, Decision Making and Looping.	Balagurusamy, "Programming in C", 6th Edition, Tata McGraw Hill Publication, 2012.	Google Classroom, ICT Tools such as quiziz. Whiteboard.
III	Arrays, One dimensional Array,	Ashok N. Kamathane – "Programming with	Google Classroom, ICT Tools such as

	Two Dimensional Array.	C", Third Edition, Pearson Publication, 2011.	quiziz. Whiteboard.
IV	Multi-Dimensional Array, Dynamic Array, Predefined Streams,	Ashok N. Kamathane – "Programming with C", Third Edition, Pearson Publication, 2011.	Google Classroom, ICT Tools such as quiziz. Whiteboard.
NOV I	Character Arrays and Strings, Reading and Writing String,	Balagurusamy, "Programming in C", 6th Edition, Tata McGraw Hill Publication, 2012.	Google Classroom, ICT Tools such as quiziz. Whiteboard.
II	Arithmetic Operation on Characters.	Balagurusamy, "Programming in C", 6th Edition, Tata McGraw Hill Publication, 2012.	Google Classroom, ICT Tools such as quiziz. Whiteboard.
III	Putting String Together and Comparison of Two Strings.	Balagurusamy, "Programming in C", 6th Edition, Tata McGraw Hill Publication, 2012.	Google Classroom, ICT Tools such as quiziz. Whiteboard.
IV	String Handling Functions, Other Features of Strings.	Balagurusamy, "Programming in C", 6th Edition, Tata McGraw Hill Publication, 2012.	Google Classroom, ICT Tools such as quiziz. Whiteboard.
DEC I	User-Defined Functions.Categories of functions.	Balagurusamy, "Programming in C", 6th Edition, Tata McGraw Hill Publication, 2012.	Google Classroom, ICT Tools such as quiziz. Whiteboard.
II	Recursions, Passing array, Strings to	Balagurusamy, "Programming in C",	Google Classroom, ICT Tools such as

	Functions.	6th Edition, Tata McGraw Hill Publication, 2012.	quiziz. Whiteboard.
III	Scope-Visibility, Structures and Unions.	Balagurusamy, "Programming in C", 6th Edition, Tata McGraw Hill Publication, 2012.	Google Classroom, ICT Tools such as quiziz. Whiteboard.

Subject Name: Practical VI: PROGRAMMING IN C

Subject Code: UCCAC20

Week	Portions to be covered	Tools Used	Platform (LMS)
SEP II	Introduction to C Programming installation	Turbo C	Google Classroom
III	Input and Output Operations	Turbo C	Google Classroom
IV	Decision Making Statements	Turbo C	Google Classroom
OCT I	Arrays and Looping Statements	Turbo C	Google Classroom
II	Two Dimensional Arrays	Turbo C	Google Classroom
III	The Concepts of Functions	Turbo C	Google Classroom
IV	Recursion	Turbo C	Google Classroom
NOV I	Character Arrays	Turbo C	Google Classroom
II	Structure and Unions	Turbo C	Google Classroom

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Lesson Plan for the year 2020–2021

Subject: Software Testing (SBE)

Subject Code: USCSFn17

Week	Portions to be covered	Reference	Platform (LMS)
SEP **I**	Software life cycle model and its types, verification and validation.	Daniel Galin – "Software Quality Assurance", 2nd edition – Pearson education,2011.	Google Classroom, ICT Tools such as quiziz. Whiteboard.
II	Waterfall model, RAD Model, Spiral Model, V model.	Daniel Galin – "Software Quality Assurance", 2nd edition – Pearson education, 2011.	Google Classroom, ICT Tools such as quiziz. Whiteboard.
III	Types of Testing: White Box and Block Box Testing	Milind Limaye – Software quality Assurance – Tata McGraw Hill Publication, 2011	Google Classroom, ICT Tools such as quiziz. Whiteboard.
IV	Structural Testing and State Testing	Milind Limaye – Software quality Assurance – Tata McGraw Hill Publication, 2011.	Google Classroom, ICT Tools such as quiziz. Whiteboard.
OCT **I**	Integration Testing, system and acceptance testing overview.	Milind Limaye – Software quality Assurance – Tata McGraw Hill Publication, 2011	Google Classroom, ICT Tools such as quiziz. Whiteboard.
II	Performance testing and Methodology of	Roger S. Pressman – Software Engineering:	Google Classroom, ICT Tools such as

	performance testing	A practitioner's Approach, 5th Edition-Tata McGraw Hill International Edition, New York, 2000.	quiziz. Whiteboard.
III	Regression Testing and its Types	Milind Limaye – Software quality Assurance – Tata McGraw Hill Publication, 2011	Google Classroom, ICT Tools such as quiziz. Whiteboard.
IV	Ad hoc Testing: Agile and Extreme testing	Richard Fairly – Software Engineering Concepts – Tata McGraw Hill, 1997.	Google Classroom, ICT Tools such as quiziz. Whiteboard.
NOV **I**	General requirements for Test tool and framework, and Metric types.	Pankaj Jalote – An Integrated Approach to Software Engineering, 2nd Edition – Narosa publication, 2010.	Google Classroom, ICT Tools such as quiziz. Whiteboard.

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Lesson Plan for the year 2020–2021

Subject: .NET FRAMEWORK

Subject Code: PCCSB20

Week	Portions to be covered	Reference	Platform (LMS)
SEP **IV**	Introduction to .NET Framework, C# language, Control Structures, C# Arrary.	Anamitra Deshmukh – Nimbalkar (2018). C# and .Net Programming. Technical Publications. First Edition.	Google Classroom, ICT Tools such as quiziz. Whiteboard.
OCT **I**	String –String Builder Class, Functions and Methods, Classes and Objects.	Anamitra Deshmukh – Nimbalkar (2018). C# and .Net Programming. Technical Publications. First Edition.	Google Classroom, ICT Tools such as quiziz. Whiteboard.
II	Inheritance, Polymorphism, Operator Overloading, Errors and Exceptions.	Anamitra Deshmukh – Nimbalkar (2018). C# and .Net Programming. Technical Publications. First Edition.	Google Classroom, ICT Tools such as quiziz. Whiteboard.
III	C# Files and IO, ADO.NET, .NET Environment, Programming with Windows controls.	Anamitra Deshmukh – Nimbalkar (2018). C# and .Net Programming. Technical Publications. First	Google Classroom, ICT Tools such as quiziz. Whiteboard.

		Edition.	
IV	C# MDI Form, C# ADO.Net: Data Providers, Objects, Data Set – working with Data.	Anamitra Deshmukh – Nimbalkar (2018). C# and .Net Programming. Technical Publications. First Edition.	Google Classroom, ICT Tools such as quiziz. Whiteboard.
NOV **I**	XML.Net: XML Introduction, Syntax, Reading and Writing XML files,	Anamitra Deshmukh – Nimbalkar (2018). C# and .Net Programming. Technical Publications. First Edition.	Google Classroom, ICT Tools such as quiziz. Whiteboard.
II	XML and ADO.NET for Handling Data. Fundamentals of Web Programming.	Anamitra Deshmukh – Nimbalkar (2018). C# and .Net Programming. Technical Publications. First Edition.	Google Classroom, ICT Tools such as quiziz. Whiteboard.
III	ASP.NET Applications and Configuration – Web forms.	Anamitra Deshmukh – Nimbalkar (2018). C# and .Net Programming. Technical Publications. First Edition.	Google Classroom, ICT Tools such as quiziz. Whiteboard.
IV	SOAP and Web Services, .Net assemblies.	Anamitra Deshmukh – Nimbalkar (2018). C# and .Net Programming. Technical Publications. First Edition.	Google Classroom, ICT Tools such as quiziz. Whiteboard.

DEC **I**	Security in .NET – Attributes, Reflections – Type Discovery.	Anamitra Deshmukh – Nimbalkar (2018). C# and .Net Programming. Technical Publications. First Edition.	Google Classroom, ICT Tools such as quiziz. Whiteboard.
II	Remote Programming: C# Remoting Architecture,	Anamitra Deshmukh – Nimbalkar (2018). C# and .Net Programming. Technical Publications. First Edition.	Google Classroom, ICT Tools such as quiziz. Whiteboard.
III	Domains – Contexts - Proxies, Marshalling and Unmarshalling.	Anamitra Deshmukh – Nimbalkar (2018). C# and .Net Programming. Technical Publications. First Edition.	Google Classroom, ICT Tools such as quiziz. Whiteboard.

Subject Name: Practical VI : .NET PROGRAMMING LAB

Subject Code: PCCSE20

Week	Portions to be covered	Tools Used	Platform (LMS)
SEP **IV**	Installation of Visual Studio.	Visual Studio 2010 IDE	Google Classroom
OCT **I**	Accept a String and Convert the Case of the Characters.	Visual Studio 2010 IDE	Google Classroom
II	Implementation of Calculator with memory and Recall operations.	Visual Studio 2010 IDE	Google Classroom
III	Develop a menu based .Net application and to implement a text editor with cut-copy-paste save and close operations using master pages.	Visual Studio 2010 IDE	Google Classroom
IV	How is the book ASP.NET with C# by DreamTech?	Visual Studio 2010 IDE	Google Classroom
NOV **I**	Application to perform timer based quiz of 10 questions.	Visual Studio 2010 IDE	Google Classroom

II	Develop a DB application using ADO.NET to insert-modify-update and delete operations. -Data grid display records. - Data grid to add-edit and modify records.	Visual Studio 2010 IDE	Google Classroom
III	Develop windows form to - Display product details in data grid view using dataset and data adapter. - Fill Combobox for listing all the categories from the database using SqlDataReader and DataTabel. - select the particular Category to be displayed in the Grid - Generation of XML file from the dataset	Visual Studio 2010 IDE	Google Classroom
IV	Application for accessing a SQL database by using ADO.NET by connecting to the SQL server.	Visual Studio 2010 IDE	Google Classroom
DEC	Develop a web application to read	Visual Studio 2010	Google Classroom

I	the details of a selected country stored in XML database and display back to the user using web controls.	IDE	
II	To implement View State and Session State.	Visual Studio 2010 IDE	Google Classroom

SEMESTER PLAN.

SUBJECT : COMPUTER ORGANIZATION & ARCITECTURE

SUBJECT CODE : VCCAE20

Month	Week	portions
JAN	I	Digital Computers – logic Gates Boolean Algebra
	II	map simplification – Combinational Circuits – Sequential Circuits
	III	Flip-Flops – Digital Components : Decoders
	IV	Multiplexers – Register – Shift Registers – Data Representation : Data Types – Complements – other Binary Codes.
FEB	I	Basic Computer Organization and Design : Instruction Codes – Computer Registers – Computer Instructions.
	II	Computer Instructions – Timing and Control – Instruction Cycle – Memory Reference Instructions
	III	programming the Basic Computer : Introduction – Machine Language

Month	Week	Portions.
	IV	Assembly Language; The Assembler Central processing Units : Introduction - General Register organization.
MAR	I	Instruction formats - Addressing Modes RISC and CISC characteristics - Input Output Organization : peripheral Devices.
	II	Input /output Interface - Asynchronous Data Transfer - Modes of Transfer
	III	priority Interrupt - Direct Memory Access.
	IV	Memory Organization : Memory Hierachy
APR	I	Main Memory - Auxiliary Memory
	II	Cache Memory - Virtual Memory: Address Space and Memory Space
	III	Address Mapping using pages.
	IV	Associative Memory page Table - page Replacement.

SUBJECT : KNOWLEDGE BASED SYSTM

SUBJECT CODE : UECAFI7

Month	Week	portions
JAN	I	What is AI ? - History of AI - Intelligent Agents - Agents and Environments
	II	Good behavior - problem solving - Uniformed search startegies.
	III	Informed search staratigus : Greedy best first search - A* search.
	IV	Hill climbing Search - Genetic Algoriltm - local search in continuous spaces.
FEB	I	Constraint satisfcation problems (CSP) - Backtracking search and Local Search.
	II	Logical Agents : Knowledge based Agents - logic.
	III	propositional logic - Reasoning patterns in Propositional logic -
	IV	Syntax and Semantics of first order logic.

Month	Week	portions
MAR	I	Learning from observations - forms of learning.
	II	Inductive learning - knowledge in learning
	III	Explanation based learning - Learing using relevant information
	IV	Inductive logic programming.
APR	I	Communication - Communication as action - Formal Grammer.
	II	Formal Grammer for a fragment of english.
	III	Syntax analysis - Augmented grammer.
	IV	Semantic interpretation - Ambiguity and disambiguation.

SUBJECT : CRYPTOGRAPHY & NETWORK SECURITY

SUBJECT CODE : PECSC20.

Month	Week	positions
JAN	I	Introduction - classical Encryption techniques: Symmetric Cypher Model.
	II	Substitution Techniques - Transposition Techniques - Steganography - Block ciphers and the Data Encryption Standard
	III	Data Encryption principles, DES - Strength of DES
	IV	Differential and Linear Cryptanalysis - Block cipher Design principles.
FEB	I	Advanced Encryption standard: Evaluation Criteria for AES - AES cipher - Multiple Encryption and Triple DES.
	IV	Block cipher Modes of Operation, Confidentiality Using Symmetric Encryption.
	III	Placement of Encryption Function - Traffic confidentiality
	IV	Key Distribution - Random Number Generation.