DEPARTMENT OF MATHEMATICS

LESSON PLAN

2020-2021

LESSON PLAN
WORK DONE
&
INTERNAL MARKS

ODD SEMESTER

2020-2021

Dr. L. SUJATHA

DEPT. OF MATHEMATICS (SEC- C)

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

PG and Research Department of Mathematics

LESSON PLAN for the Academic year (2020-2021)

SEMESTER - III

Class: II M.Sc. Mathematics

Course: Topology

Course Code: PCMAI15

Staff In-charge: Dr. L. Sujatha

Week	Portions to be covered	Reference	Platform (LMS)
1 8^{th} - 11^{th} July 2020	-	-	-
2 13^{th} – 18^{th} July 2020	**UNIT - I** Topological spaces	Topology – James R. Munkres	Google Classroom (Class Code: b5whqcq)
3 20^{th} – 25^{th} July 2020	Basis for a topology	Topology – James R. Munkres	Google Classroom (Class Code: b5whqcq)

4 27th July – 1st Aug 2020	Ordered topology	Topology – James R. Munkres	Google Classroom (Class Code: b5whqcq)
5 3rd – 8th Aug 2020	Product topology on X x Y	Topology – James R. Munkres	Google Classroom (Class Code: b5whqcq)
6 10th – 14th Aug 2020	Subspace topology	Topology – James R. Munkres	Google Classroom (Class Code: b5whqcq)
7 17th -22nd Aug 2020	Closed sets and limit points	Topology – James R. Munkres	Google Classroom (Class Code: b5whqcq)
8 24th – 29th Aug 2020	**UNIT - II** Continuous Functions	Topology – James R. Munkres	Google Classroom (Class Code: b5whqcq)
9 31st Aug – 5th Sep 2020	Metric topology	Topology – James R. Munkres	Google Meet for online classes Google Classroom for offline classes (Class Code: b5whqcq)

10 7th -11th Sep 2020	**UNIT - III** Connected spaces **CA 1**	Topology – James R. Munkres	Google Meet for online classes Google Classroom for offline classes (Class Code: b5whqcq)
11 14th - 19th Sep 2020	Connected subspaces of the Real line	Topology – James R. Munkres	Google Meet for online classes Google Classroom for offline classes (Class Code: b5whqcq)
12 21st – 26th Sep 2020	Components	Topology – James R. Munkres	Google Meet for online classes Google Classroom for offline classes (Class Code: b5whqcq)
13 28th Sep – 3rd Oct 2020	Local Connectedness	Topology – James R. Munkres	Google Meet for online classes Google Classroom for offline classes (Class Code: b5whqcq)
14 5th – 10th Oct 2020	**UNIT - IV** Compact spaces	Topology – James R. Munkres	Google Meet for online classes Google Classroom for offline classes (Class Code: b5whqcq)
15 12 – 17th Oct 2020	Compact sets in the Real Line **CA 2**	Topology – James R. Munkres	Google Meet for online classes Google Classroom for offline classes (Class Code: b5whqcq)

16 $19^{th} - 24^{th}$ Oct 2020	Limit point compactness	Topology – James R. Munkres	Google Meet for online classes Google Classroom for offline classes (Class Code: b5whqcq)
17 $26^{th} - 31^{st}$ Oct 2020	Local compactness	Topology – James R. Munkres	Google Meet for online classes Google Classroom for offline classes (Class Code: b5whqcq)
18 $2^{nd} - 7^{th}$ Nov 2020	Revision	-	Google Meet for online classes Google Classroom for offline classes (Class Code: b5whqcq)

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

PG and Research Department of Mathematics

LESSON PLAN for the Academic year (2020-2021)

SEMESTER - V

Class: III B.Sc. Mathematics (Sec C)

Course: Real Analysis I

Course Code: UCMAJ15

Staff In-charge: Dr. L. Sujatha

Week	Portions to be covered	Reference	Platform (LMS)
1 8th - 11th July 2020	-	-	-
2 13th – 18th July 2020	**UNIT - I** Functions - Real valued functions	Methods of Real Analysis - Richard R. Goldberg	Google Classroom (Class Code: eqb6sgh)
3 20th – 25th July 2020	Equivalence – Countability	Methods of Real Analysis - Richard R. Goldberg	Google Classroom (Class Code: eqb6sgh)
4 27th July – 1st Aug 2020	Real Numbers – Least upper bounds - Simple problems	Methods of Real Analysis - Richard R. Goldberg	Google Classroom (Class Code: eqb6sgh)
5 3rd – 8th	**UNIT -II** Definition of sequence and subsequence	Methods of Real Analysis - Richard R. Goldberg	Google Classroom (Class Code: eqb6sgh)

Aug 2020	– Limit of a sequence		
6 10th – 14th Aug 2020	Convergent sequences – Divergent sequence	Methods of Real Analysis - Richard R. Goldberg	Google Classroom (Class Code: eqb6sgh)
7 17th -22nd Aug 2020	Bounded sequences	Methods of Real Analysis - Richard R. Goldberg	Google Classroom (Class Code: eqb6sgh)
8 24th – 29th Aug 2020	Monotone sequences	Methods of Real Analysis - Richard R. Goldberg	Google Classroom (Class Code: eqb6sgh)
9 31st Aug – 5th Sep 2020	Simple problems in Convergent, Divergent, Bounded, Oscillating and Monotone sequences	Methods of Real Analysis - Richard R. Goldberg	Google Meet for online classes Google Classroom for offline classes (Class Code: eqb6sgh)
10 7th -11th Sep 2020	**UNIT III** Operations on convergent sequences **CA 1**	Methods of Real Analysis - Richard R. Goldberg	Google Meet for online classes Google Classroom for offline classes (Class Code: eqb6sgh)
11 14th - 19th Sep 2020	Operations on divergent sequences – Convergence and divergence of Series	Methods of Real Analysis - Richard R. Goldberg	Google Meet for online classes Google Classroom for offline classes (Class Code: eqb6sgh)
12 21st – 26th Sep 2020	Series with non-negative terms – Alternating series – Simple problems	Methods of Real Analysis - Richard R. Goldberg	Google Meet for online classes Google Classroom for offline classes (Class Code: eqb6sgh)

13 28th Sep – 3rd Oct 2020	**UNIT IV** Conditional convergence and absolute convergence	Methods of Real Analysis - Richard R. Goldberg	Google Meet for online classes Google Classroom for offline classes (Class Code: eqb6sgh)
14 5th – 10th Oct 2020	Limits and continuity of metric spaces	Methods of Real Analysis - Richard R. Goldberg	Google Meet for online classes Google Classroom for offline classes (Class Code: eqb6sgh)
15 12 – 17th Oct 2020	Limit of a function on the real line **CA 2**	Methods of Real Analysis - Richard R. Goldberg	Google Meet for online classes Google Classroom for offline classes (Class Code: eqb6sgh)
16 19th – 24th Oct 2020	Metric spaces	Methods of Real Analysis - Richard R. Goldberg	Google Meet for online classes Google Classroom for offline classes (Class Code: eqb6sgh)
17 26th – 31st Oct 2020	Limits in metric spaces – Simple Problems	Methods of Real Analysis - Richard R. Goldberg	Google Meet for online classes Google Classroom for offline classes (Class Code: eqb6sgh)
18 2nd – 7th Nov 2020	Revision	-	Google Meet for online classes Google Classroom for offline classes (Class Code: eqb6sgh)

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

PG and Research Department of Mathematics

LESSON PLAN for the Academic year (2020-2021)

SEMESTER - I

Class: I. M. Sc. Mathematics

Course: Real Analysis I

Course Code: PCMAB20

Staff In-charge: Dr. L. Sujatha

Week	Portions to be covered	Reference	Platform (LMS)
1 12th-16th Oct 2020	-	Mathematical Analysis by Tom M Apostol	Online meet link: meet.google.com/yka-evrs-pxd Google Classroom (Class Code: nilabin)
2 19th – 23rd Oct 2020	Notation, Definition of the Riemann Stieltjes integral	Mathematical Analysis by Tom M Apostol	Online meet link: meet.google.com/yka-evrs-pxd Google Classroom (Class Code: nilabin)
3 26th – 29th Oct 2020	Linear properties - Integrand	Mathematical Analysis by Tom M Apostol	Online meet link: meet.google.com/yka-evrs-pxd Google Classroom (Class Code: nilabin)
4 2nd - 6th Nov 2020	Linear properties - Integrator	Mathematical Analysis by Tom M Apostol	Online meet link: meet.google.com/yka-evrs-pxd

			Google Classroom (Class Code: nilabin)
5 9th -13th Nov 2020	Integration by parts	Mathematical Analysis by Tom M Apostol	Online meet link: **meet.google.com/yka-evrs-pxd** Google Classroom (Class Code: nilabin)
6 16th -20th Nov 2020	Change of variable in a Riemann Stieltjes integral	Mathematical Analysis by Tom M Apostol	Online meet link: **meet.google.com/yka-evrs-pxd** Google Classroom (Class Code: nilabin)
7 23rd -27th Nov 2020	**CA-1**	Mathematical Analysis by Tom M Apostol	Online meet link: **meet.google.com/yka-evrs-pxd** Google Classroom (Class Code: nilabin)
8 30th Nov - 4th Dec 2020	Reduction to a Riemann integral	Mathematical Analysis by Tom M Apostol	Online meet link: **meet.google.com/yka-evrs-pxd** Google Classroom (Class Code: nilabin)
9 7th – 11th Dec 2020	Step functions as integrators - Reduction of a Riemann Stieltjes integral to a finite sum	Mathematical Analysis by Tom M Apostol	Online meet link: **meet.google.com/yka-evrs-pxd** Google Classroom (Class Code: nilabin)
10 14th - 18th Dec 2020	Euler's summation formula	Mathematical Analysis by	Online meet link: **meet.google.com/yka-evrs-**

	Monotonically increasing integrators	Tom M Apostol	**pxd** Google Classroom (Class Code: nilabin)
11 21st - 23th & 26th Dec 2020 24th & 25th Dec 2020	Additive and linearity properties of upper and lower Integrals **Christmas Holidays**	Mathematical Analysis by Tom M Apostol	Online meet link: **meet.google.com/yka-evrs-pxd** Google Classroom (Class Code: nilabin)
12 28th – 31st Dec 2020	Riemann's condition Comparison theorems	Mathematical Analysis by Tom M Apostol	Online meet link: **meet.google.com/yka-evrs-pxd** Google Classroom (Class Code: nilabin)

LESSON PLAN FOR THE ACADEMIC YEAR: 2020-2021

EVEN SEMESTER

PAPERS HANDLED

S. No.	Class	Course Code	Course	Hours
1.	III B. Sc. Mathematics	UCMAM15	Real Analysis II	5
2.	II M. Sc. Mathematics	PCMAM19	Functional Analysis	5
3.	I M. Sc. Mathematics	PCMAF20	Real Analysis II	1
4.	II M. Sc. Mathematics & II M. Sc. Computer Science	–	Value Education	1
			Total	**12 Hrs.**

Staff Incharge: Dr. (Mrs.) L. Sujatha

LESSON PLAN FOR THE ACADEMIC YEAR 2020-2021 (EVEN SEMESTER)

Dr. (Mrs.) L. SUJATHA

Months/ Weeks	Class: I M. Sc. Mathematics Sub: Real Analysis – II (PCMAF20) Hour: 1 Hr.	Class: II M. Sc. Mathematics Sub: Functional Analysis (PCMAM19) Hours: 5 Hrs.	Class: III B.Sc. Mathematics Sub: Real Analysis – II (UCMAM15) Hours: 5 Hrs.
Jan/ 1	Double Sequences	Banach Space: Definitions and some examples	Open sets
Jan /2	Double Sequences	Continuous linear transformations	Closed sets
Jan /3	**PONGAL HOLIDAYS**	**PONGAL HOLIDAYS**	**PONGAL HOLIDAYS**
Jan /4	Cesaro summability	Holder's Inequality, Minkowski's Inequality	Simple problems based on open and closed sets – Theorems on open and closed sets
Jan /5	Cesaro summability	Zorn's lemma	Bounded sets – Totally bounded sets
Feb/ 1	Infinite products	Hahn Banach theorem	Definition and examples of complete metric space
Feb/ 2	Infinite products	Natural imbedding on N in N**	Theorems on complete metric space
Feb/ 3	Double series	Conjugate of an operator	Contraction-Definition and example of Compact metric spaces
Feb/ 4	**I CA EXAMINATIONS**	**I CA EXAMINATIONS**	**I CA EXAMINATIONS**
Mar/ 1	Double series	Lemma to open mapping theorem	Theorems on Compact metric space
Mar/ 2	Rearrangement theorem for double series	The open mapping theorem - Closed graph theorem	Sets of measure zero-Definition of the Riemann integral
Mar/ 3	Rearrangement theorem for double series	The uniform boundedness theorem – Normal Operator	Definition of Riemann upper sum and lower sum-Properties of the Riemann integral
Mar/ 4	A sufficient condition for equality of iterated series	Normal Operator	Theorems on Riemann integral-Simple problems
Apr / 1	A sufficient condition for equality of iterated series	Unitary Operator	Length of open sets and closed sets-Inner and Outer measure
Apr / 2	Multiplication of series	Projections: Definitions and Theorems	Measurable sets-Properties of measurable sets
Apr / 3	Multiplication of series **II CA EXAMINATIONS**	Projections: Definitions and Theorems **II CA EXAMINATIONS**	Theorems on measurable sets-Symmetric difference and its theorem **II CA EXAMINATIONS**
Apr / 4	**REVISION**	**REVISION**	**REVISION**
6th May – 9th May	**STUDY HOLIDAYS**	**STUDY HOLIDAYS**	**STUDY HOLIDAYS**
10th May – 19th May	**EVEN SEMESTER EXAMS**	**EVEN SEMESTER EXAMS**	**EVEN SEMESTER EXAMS**

LESSON PLAN
AND
WORK DONE

ODD SEMESTER

2020-2021

Ms. K. GAYATHRI

DEPT. OF MATHEMATICS (SEC- C)

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

PG and Research Department of Mathematics

Lesson Plan for the Academic year (2020-2021)

SEMESTER - III

Class: II B.Sc. Mathematics

(Section C)

-Course: Statics

Course Code: UCMAF15

Staff In-charge: K. Gayathri

Week	Portions to be covered	Reference	Platform (LMS)
1 8th - 11th July 2020	Unit 1: Newton's Laws of motion – Forces	P. Durai Pandian, Laxmi Durai Pandian	Google Classroom (Class Code: yvvdb2j)
2 13th – 18th July 2020	Resultant of two forces on a particle	P. Durai Pandian, Laxmi Durai Pandian	Google Classroom (Class Code: yvvdb2j)
3 20th – 25th July 2020	Resultant of three forces related to a triangle acting at a point	P. Durai Pandian, Laxmi Durai Pandian	Google Classroom (Class Code: yvvdb2j)

4 27th July – 1st Aug 2020	Resultant of several forces acting on a particle.	P. Durai Pandian, Laxmi Durai Pandian	Google Classroom (Class Code: yvvdb2j)
5 3rd – 8th Aug 2020	Unit 2: Equilibrium of a particle under three forces –Triangle of forces - Lami's theorem	P. Durai Pandian, Laxmi Durai Pandian	Google Classroom (Class Code: yvvdb2j)
6 10th – 14th Aug 2020	Equilibrium of a particle under several forces.	P. Durai Pandian, Laxmi Durai Pandian	Google Classroom (Class Code: yvvdb2j)
7 17th -22nd Aug 2020	Moment of a force – Moment of a force about a line	P. Durai Pandian, Laxmi Durai Pandian	Google Classroom (Class Code: yvvdb2j)
8 24th – 29th Aug 2020	Moment of a force about a line – Scalar moment	P. Durai Pandian, Laxmi Durai Pandian	Google Classroom (Class Code: yvvdb2j)
9 31st Aug – 5th Sep 2020	Unit 3: Parallel forces – Point of application of resultant of many parallel forces – Varignon's theorem	P. Durai Pandian, Laxmi Durai Pandian	Google Meet for online classes Google Classroom for offline classes (Class Code: yvvdb2j)
10 7th -11th Sep 2020	Parallel forces at the vertices of a triangle – Forces along the sides of a triangle CA 1	P. Durai Pandian, Laxmi Durai Pandian	Google Meet for online classes Google Classroom for offline classes (Class Code: yvvdb2j)

11 14th - 19th Sep 2020	Couples – Moment of a couple – Arm and axis of a couple – Resultant of several coplanar forces- Moment of a certain couple as an area	P. Durai Pandian, Laxmi Durai Pandian	Google Meet for online classes Google Classroom for offline classes (Class Code: yvvdb2j)
12 21st – 26th Sep 2020	Unit 4: Friction – Definition – Angle of friction – Cone of friction – Laws of friction	P. Durai Pandian, Laxmi Durai Pandian	Google Meet for online classes Google Classroom for offline classes (Class Code: yvvdb2j)
13 28th Sep – 3rd Oct 2020	Limiting equilibrium of a particle on an inclined plane	P. Durai Pandian, Laxmi Durai Pandian	Google Meet for online classes Google Classroom for offline classes (Class Code: yvvdb2j)
14 5th – 10th Oct 2020	Problems involving frictional forces	P. Durai Pandian, Laxmi Durai Pandian	Google Meet for online classes Google Classroom for offline classes (Class Code: yvvdb2j)
15 12 – 17th Oct 2020	Unit 5: Centre of mass – Centre of gravity – Finding mass centre – Finding mass centre (not using integration) CA 2	P. Durai Pandian, Laxmi Durai Pandian	Google Meet for online classes Google Classroom for offline classes (Class Code: yvvdb2j)
16 19th – 24th Oct 2020	Finding mass centre not using integration.	P. Durai Pandian, Laxmi Durai Pandian	Google Meet for online classes Google Classroom for offline classes (Class Code: yvvdb2j)
17 26th – 31st	Finding mass centre using integration.	P. Durai Pandian, Laxmi Durai Pandian	Google Meet for online classes Google Classroom for offline classes

Oct 2020			(Class Code: yvvdb2j)
18 2nd- 7th Nov 2020	Finding mass centre using integration.	P. Durai Pandian, Laxmi Durai Pandian	Google Meet for online classes Google Classroom for offline classes (Class Code: yvvdb2j)
19 9th – 13th Nov 2020	Revision	P. Durai Pandian, Laxmi Durai Pandian	Google Meet for online classes Google Classroom for offline classes (Class Code: yvvdb2j)
20 Nov 16th – Dec 8th 2020	Revision	P. Durai Pandian, Laxmi Durai Pandian	Google Meet for online classes Google Classroom for offline classes (Class Code: yvvdb2j)

SEMESTER - III

Aug 2020			
7 17th -22nd Aug 2020	Theorem of du Bois-Reymond-Stochastic Calculus of Variations	A.S. Gupta	Google Classroom (Class Code: tta5g4p)
8 24th – 29th Aug 2020	Supplementary Remarks	A.S. Gupta	Google Classroom (Class Code: tta5g4p)
9 31st Aug – 5th Sep 2020	Unit 3: Functional of the form	A.S. Gupta	Google Meet for online classes Google Classroom for offline classes (Class Code: tta5g4p)
10 7th -11th Sep 2020	Variational Problem with a Movable Boundary for a Functional Dependent on Two Functions CA 1	A.S. Gupta	Google Meet for online classes Google Classroom for offline classes (Class Code: tta5g4p)
11 14th - 19th Sep 2020	One-Sided Variations- Reflection and Refraction of Extremals	A.S. Gupta	Google Meet for online classes Google Classroom for offline classes (Class Code: tta5g4p)
12 21st – 26th Sep 2020	Diffraction of Light Rays	A.S. Gupta	Google Meet for online classes Google Classroom for offline classes (Class Code: tta5g4p)
13 28th Sep – 3rd Oct 2020	Unit 4: Field of Extremals- Jacobi Condition-Weirstrass Function	A.S. Gupta	Google Meet for online classes Google Classroom for offline classes (Class Code: tta5g4p)

14 5th – 10th Oct 2020	Legendre Condition- Second Variation-Canonical Equations and Variational Principles	A.S. Gupta	Google Meet for online classes Google Classroom for offline classes (Class Code: tta5g4p)
15 12 – 17th Oct 2020	Complementary Variational Principles- Poisson Bracket CA 2	A.S. Gupta	Google Meet for online classes Google Classroom for offline classes (Class Code: tta5g4p)
16 19th – 24th Oct 2020	Introduction to Direct Methods – Euler's Method of Finite Difference	A.S. Gupta	Google Meet for online classes Google Classroom for offline classes (Class Code: tta5g4p)
17 26th – 31st Oct 2020	Rayleigh-Ritz Method-Galerkin Method	A.S. Gupta	Google Meet for online classes Google Classroom for offline classes (Class Code: tta5g4p)
18 2nd- 7th Nov 2020	Methods of Projection	A.S. Gupta	Google Meet for online classes Google Classroom for offline classes (Class Code: tta5g4p)
19 9th – 13th Nov 2020	Finite Element Method	A.S. Gupta	Google Meet for online classes Google Classroom for offline classes (Class Code: tta5g4p)
20 Nov 16th – Dec 8th 2020	Revision	A.S. Gupta	Google Meet for online classes Google Classroom for offline classes (Class Code: tta5g4p)

SEMESTER - V

Class: III B.Sc. Mathematics (Section - C)

Course: SBE: MATHEMATICS FOR COMPETITIVE EXAMINATIONS –I

Course Code: USMAD517

Staff In-charge: Ms. K. Gayathri

Week	Portions to be covered	Reference	Platform (LMS)
1 8th - 11th July 2020	-	-	-
2 13th – 18th July 2020	Unit 1: Number system	Quantitative aptitude – Dr.R.S.Aggarwal	Google Classroom (Class Code: 5g37jas)
3 20th – 25th July 2020	Number system	Quantitative aptitude – Dr.R.S.Aggarwal	Google Classroom (Class Code: 5g37jas)
4 27th July – 1st Aug 2020	Progession	Quantitative aptitude – Dr.R.S.Aggarwal	Google Classroom (Class Code: 5g37jas)
5 3rd – 8th Aug 2020	Progression	Quantitative aptitude – Dr.R.S.Aggarwal	Google Classroom (Class Code: 5g37jas)
6	Average	Quantitative aptitude –	Google Classroom

10th – 14th Aug 2020		Dr.R.S.Aggarwal	(Class Code: 5g37jas)
7 17th -22nd Aug 2020	Average	Quantitative aptitude – Dr.R.S.Aggarwal	Google Classroom (Class Code: 5g37jas)
8 24th – 29th Aug 2020	Ratio	Quantitative aptitude – Dr.R.S.Aggarwal	Google Classroom (Class Code: 5g37jas)
9 31st Aug – 5th Sep 2020	Proportion	Quantitative aptitude – Dr.R.S.Aggarwal	Google Meet for online classes Google Classroom for offline classes (Class Code: 5g37jas)
10 7th -11th Sep 2020	Unit 3: Ages CA 1	Quantitative aptitude – Dr.R.S.Aggarwal	Google Meet for online classes Google Classroom for offline classes (Class Code: 5g37jas)
11 14th - 19th Sep 2020	Boats and Streams	Quantitative aptitude – Dr.R.S.Aggarwal	Google Meet for online classes Google Classroom for offline classes (Class Code: 5g37jas)
12 21st – 26th Sep 2020	Clocks and Calendar	Quantitative aptitude – Dr.R.S.Aggarwal	Google Meet for online classes Google Classroom for offline classes (Class Code: 5g37jas)
13 28th Sep – 3rd Oct 2020	Logarithms	Quantitative aptitude – Dr.R.S.Aggarwal	Google Meet for online classes Google Classroom for offline classes (Class Code: 5g37jas)

14 5th – 10th Oct 2020	Simplifications	Quantitative aptitude – Dr.R.S.Aggarwal	Google Meet for online classes Google Classroom for offline classes (Class Code: 5g37jas)
15 12 – 17th Oct 2020	Heights and Distance CA 2	Quantitative aptitude – Dr.R.S.Aggarwal	Google Meet for online classes Google Classroom for offline classes (Class Code: 5g37jas)
16 19th – 24th Oct 2020	Unit 5: Alphabet Test	Quantitative aptitude – Dr.R.S.Aggarwal	Google Meet for online classes Google Classroom for offline classes (Class Code: 5g37jas)
17 26th – 31st Oct 2020	Direction sense test	Quantitative aptitude – Dr.R.S.Aggarwal	Google Meet for online classes Google Classroom for offline classes (Class Code: 5g37jas)
18 2nd- 7th Nov 2020	Classification	Quantitative aptitude – Dr.R.S.Aggarwal	Google Meet for online classes Google Classroom for offline classes (Class Code: 5g37jas)
19 9th – 13th Nov 2020	Classification	Quantitative aptitude – Dr.R.S.Aggarwal	Google Meet for online classes Google Classroom for offline classes (Class Code: 5g37jas)
20 Nov 16th – Dec 8th 2020	Revision	Quantitative aptitude – Dr.R.S.Aggarwal	Google Meet for online classes Google Classroom for offline classes (Class Code: 5g37jas)

SEMESTER - I

Class: I M.Sc. Mathematics

Course: Elective: Differential Geometry

Course Code: PEMAA20

Staff In-charge: Ms. K. Gayathri

Week	Portions to be covered	Reference	Platform (LMS)
1 12th – 16th Oct 2020	**Unit 1** Introduction – Representation of space curves	Differential Geometry – D. Somasundaram	Google Meet for online classes Google Classroom for offline classes (Class Code: ljixjqk)
2 19th – 23rd Oct 2020	Unique parametric representation of a space curve – Arc length	Differential Geometry – D. Somasundaram	Google Meet for online classes Google Classroom for offline classes (Class Code: ljixjqk)
3 26th – 29th Oct 2020	Tangent and osculating plane – Principal normal and binormal	Differential Geometry – D. Somasundaram	Google Meet for online classes Google Classroom for offline classes (Class Code: ljixjqk)
4 2nd- 6th Nov 2020	Curvature and torsion – Behaviour of a curve near one of its points	Differential Geometry – D. Somasundaram	Google Meet for online classes Google Classroom for offline classes (Class Code: ljixjqk)
5 9nd- 13th Nov 2020	The curvature and torsion of a curve as the intersection of two surfaces	Differential Geometry – D. Somasundaram	Google Meet for online classes Google Classroom for offline

			classes (Class Code: ljixjqk)
6 16th – 20th Nov 2020	Contact between curves and surfaces	Differential Geometry – D. Somasundaram	Google Meet for online classes Google Classroom for offline classes (Class Code: ljixjqk)
7 23rd – 27th Nov 2020	**Unit 2** Osculating circle and osculating sphere- Locus of centres of spherical curvature	Differential Geometry – D. Somasundaram	Google Meet for online classes Google Classroom for offline classes (Class Code: ljixjqk)
8 30th Nov – 4th Dec 2020	Tangent surfaces, involutes and Evolutes – Betrand curves- Spherical indicatrix – Intrinsic equations of space curves	Differential Geometry – D. Somasundaram	Google Meet for online classes Google Classroom for offline classes (Class Code: ljixjqk)
9 7th – 11th Dec 2020	Fundamentals existence theorem for space curves- Helices.	Differential Geometry – D. Somasundaram	Google Meet for online classes Google Classroom for offline classes (Class Code: ljixjqk)
10 14th – 22th Dec 2020	**Unit 5** Existence theorems – Geodesic parallels- Geodesic polar coordinates	Differential Geometry – D. Somasundaram	Google Meet for online classes Google Classroom for offline classes (Class Code: ljixjqk)
11 23rd Dec – 31st Dec 2020	Geodesic curvature- Gauss – Bonnet theorem	Differential Geometry – D. Somasundaram	Google Meet for online classes Google Classroom for offline classes (Class Code: ljixjqk)

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

PG and Research Department of Mathematics

Work done for the Academic year (2020-2021)

SEMESTER - III

Class: II B.Sc. Mathematics

Course: Statics

Course Code: UCMAF15

Staff In-charge: Ms. K. Gayathri

Date	Class	Portions Covered	Reference	Methods of Teaching
8th - 11th July 2020	II B.Sc. Maths	Newton's Laws of motion – Forces	P. Durai Pandian, Laxmi Durai Pandian	Google Classroom (Class Code: yvvdb2j) Videos and PDFS are posted in the Classroom
13th – 18th July 2020	II B.Sc. Maths	Resultant of two forces on a particle	P. Durai Pandian, Laxmi Durai Pandian	Google Classroom (Class Code: yvvdb2j) Videos and PDFS are posted in the Classroom
20th – 25th July 2020	II B.Sc. Maths	Resultant of three forces related to a triangle acting at a point	P. Durai Pandian, Laxmi Durai Pandian	Google Classroom (Class Code: yvvdb2j) Videos and PDFS are posted in the Classroom
27th July – 1st Aug 2020	II B.Sc. Maths	Resultant of several forces acting on a particle.	P. Durai Pandian, Laxmi Durai Pandian	Google Classroom (Class Code: yvvdb2j) Videos and PDFS are posted in the Classroom
3rd – 8th Aug 2020	II B.Sc. Maths	Equilibrium of a particle under three forces – Triangle of forces - Lami's theorem	P. Durai Pandian, Laxmi Durai Pandian	Google Classroom (Class Code: yvvdb2j) Videos and PDFS are posted in the Classroom

LESSON PLAN FOR ACADEMIC YEAR (2020 - 2021)

EVEN SEMESTER

II M.Sc Mathematics:-

Programming with JAVA - 6 hrs.

I M.Sc Mathematics:

Partial Differential Equations & Integral Partial Differential Equations - 4 hrs.

III B.Sc Mathematics:

SBE: Mathematics for Competitive Examinations - II - 2 hrs.

II B.Sc Mathematics: Dynamics - 4 hrs.

Total - 16 hrs.

Staff Incharge: Ms. K. Gayathri.

S. Gayathri 10/05/21

Month	Weeks	II M.Sc Mathematics	I M.Sc Mathematics	II B.Sc Mathematics	III B.Sc Mathematics
JANUARY	1	Basic concepts of OOP - Benefits of OOP - Applications of OOP - Features of JAVA	Occurence of the Laplace & Poisson equations - Boundary value Problems.	Basic units - Velocity - Velocity of a particle describing a circle.	Number Test
	2	Java Differs from C & C++ - Java environment - Java Program structure.	Important Tools - Properties of harmonic functions.	Resultant Velocity - Relative velocity - Acceleration - Coplanar motion.	Ranking Test
	3	Tokens - statements - Java Programming style.	Seperation of Variables - Problems.	Velocity & Acceleration in a coplanar motion - Angular velocity - Relative angular velocity.	Time Sequence Test
	4	Constants - Variables - Data types - Declaration of variables.	Occurence of the diffusion equation.	SHM - Projection of a particle having a uniform circular motion.	Inserting the missing character
FEBRUARY	1	Giving values to variables - Standard default values - Types of operators.	Boundary Conditions - Elementary solutions of the diffusion equations.	Composition of two SHM. of same period	Series Completion
	2	Types of Operators - Expression - Evaluation of expression.	Dirac Delta function.	Forces on a projectile - Displacement as a combination of Vertical.	Coding - Decoding
	3	Operator precedence & associativity - Mathematical functions.	Separation of variables method.	Horizontal displacement - Nature of a trajectory - Results.	Relationships
	4	Decision Making Statements - If, Simple if, if..., else, Nesting of if..else, else if ladder.	Problems	Maximum horizontal range for a given velocity.	Logical Venn diagram.

Month	weeks	II M.Sc Mathematics	I M.Sc Mathematics	II B.Sc Mathematics	III B.Sc Mathematics
MARCH	1	I CA Examinations	I CA Examinations	I CA Examinations	I CA Examinations
	2	Switch statements & Conditional opeeator - while, do, for loops.	occurence of the wave equation – Derivation of one dimensional wave equation	Projectile projected on an inclined plane - Maximum range.	Statement - Arguments
	3	Jumps in loops - Labelled loops - Defining a class - Fields declaration.	Solution of one dimensional wave equation by canonical equation.	Impact of Spheres - Laws of Impact -	Statement - Conclusions.
	4	Method declaration – Creating objects - Accessing class members - Constructors Methods overloading.	Initial value Problem - D' Alembert's solution: Solution of non-homogeneous equation.	Impact of two Smooth Spheres - Direct impact of two Smooth Spheres.	Arithmetic Reasoning - Series
APRIL	1	Static members - Nesting of methods - Inheritance - overriding methods - Final variables, methods & classes	Vibration string - Variable Separable Solution Forced vibration.	Oblique impact of two Smooth Spheres.	Analogy, Analytical Reasoning.
	2	Finalizer methods - Abstract method – methods with Vaeargs. 1 & 2 dimensional arrays - Vector - Wrapper class	Integral transforms - Fredholm equation of 1st & 2nd kind - Volterra equation of 1st & 2nd kind.	Central orbit - Differential Equations of a central orbit.	Tabulation, Bar Graph.
	3	II CA Examinations	II CA Examinations	II CA Examinations	II CA Examinations
	4	Enumeeated Types - Annotation Interface - Implementing Interface - Accessing Interface	Stieltje's integral equation - Abel's integral equation - Fox's integral - Green's fos	Laws of a Central force – Methods to find the central orbit	Pie Chart, Line graph.

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

PG and Research Department of Mathematics

Lesson Plan for the Academic year (2020-2021)

SEMESTER - V

Class: III B.Sc. Mathematics

Course: Abstract Algebra

Course Code: UCMAI15

Staff In-charge: Ms.A.Priya

Week	Portions to be Covered	Reference	Platforms(LMS)
1 8th – 11th July 2020	Introduction, Groups - definitions and examples	Topics in Algebra – I.N. Herstein	Google Classroom (Class Code : p7bgscp)
2 13th – 18th July 2020	Subgroups-definition and lemmas	Topics in Algebra – I.N. Herstein	Google Classroom (Class Code : p7bgscp)
3 20th – 25th July 2020	Lagrange theorem, Euler theorem, product of subgroups	Topics in Algebra – I.N. Herstein	Google Classroom (Class Code : p7bgscp)
4 27th July – 1st Aug 2020	Normal subgroups., Kernel of a homomorphism,	Topics in Algebra – I.N. Herstein	Google Classroom (Class Code : p7bgscp)
5 3rd -8th Aug 2020	Isomorphism , Fundamental theorem on homomorphism, Theorems on isomorphism	Topics in Algebra – I.N. Herstein	Google Classroom (Class Code : p7bgscp)

6 10th – 14th Aug 2020	Theorems and problems on homomorphism and isomorphism	Topics in Algebra – I.N. Herstein	Google Classroom (Class Code : p7bgscp)
7 17th – 22nd Aug 2020	Theorems and problems on homomorphism and isomorphism	Topics in Algebra – I.N. Herstein	Google Classroom (Class Code : p7bgscp)
8 24th – 29th Aug 2020	Automorphism definition and its Remarks.	Topics in Algebra – I.N. Herstein	Google Classroom (Class Code : p7bgscp)
9 31st Aug – 5th Sep 2020	Automorphism definition and theorems, InnerAutomorphism theorems	Topics in Algebra – I.N. Herstein	Google Meet for Online classes Google Classroom for Offline classes (Class Code : p7bgscp)
10 7th – 11th Sep 2020	Cayles theorem, permutation groups	Topics in Algebra – I.N. Herstein	Google Meet for Online classes Google Classroom for Offline classes (Class Code : p7bgscp)
11 14th – 19th Sep 2020	Permutation group (contd)	Topics in Algebra – I.N. Herstein	Google Meet for Online classes Google Classroom for Offline classes (Class Code : p7bgscp)
12 21st – 26th Sep 2020	Rings and Field definitions and examples	Topics in Algebra – I.N. Herstein	Google Meet for Online classes Google Classroom for Offline classes (Class Code : p7bgscp)
13 28th Sep -3rd Oct	Characteristic of a ring examples	Topics in Algebra – I.N. Herstein	Google Meet for Online classes Google Classroom for

2020			Offline classes (Class Code : p7bgscp)
14 5^{th} – 10^{th} Oct 2020	Lemmas of Ring Theory	Topics in Algebra – I.N. Herstein	Google Meet for Online classes Google Classroom for Offline classes (Class Code : p7bgscp)
15 12^{th} – 17 Oct 2020	Ideals and Quotient rings Maximal ideal	Topics in Algebra – I.N. Herstein	Google Meet for Online classes Google Classroom for Offline classes (Class Code : p7bgscp)
16 19^{th} – 24^{th} Oct 2020	Principal ideal ring	Topics in Algebra – I.N. Herstein	Google Meet for Online classes Google Classroom for Offline classes (Class Code : p7bgscp)
17 26^{th} – 31^{st} Oct 2020	Euclidean ring	Topics in Algebra – I.N. Herstein	Google Meet for Online classes Google Classroom for Offline classes (Class Code : p7bgscp)
18 2^{nd} – 7^{th} Nov 2020	Unique factorization thereon	Topics in Algebra – I.N. Herstein	Google Meet for Online classes Google Classroom for Offline classes (Class Code : p7bgscp)
19 9^{th} -13^{th} Nov 2020	Particular Euclidean ring	Topics in Algebra – I.N. Herstein	Google Meet for Online classes Google Classroom for Offline classes (Class Code : p7bgscp)
20 16^{th} – 18^{th} Nov	Particular Euclidean ring	Topics in Algebra – I.N. Herstein	Google Meet for Online classes Google Classroom for

2020			Offline classes (Class Code : p7bgscp)
21 27 Nov 2020	Revisions	Topics in Algebra – I.N. Herstein	Google Meet for Online classes
22 30th Nov – 4th Dec 2020	Revisions	Topics in Algebra – I.N. Herstein	Google Meet for Online classes
23 7th – 8th Dec 2020	Revisions	Topics in Algebra – I.N. Herstein	Google Meet for Online classes
24 9th – 6th Dec 2020	Study Holidays		
25 17th – 23rd Dec 2020	Semester Examination		

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

PG and Research Department of Mathematics

Lesson Plan for the Academic year (2020-2021)

SEMESTER - III

Class: II B.Sc. Mathematics

Course: Mathematical Statistics- I

Course Code: UAMSA15

Staff In-charge: Ms.A.Priya

Week	Portions to be Covered	Reference	Platforms(LMS)
1 8th – 11th July 2020	Sample space, Events, Mutually exclusive events	S. C. Gupta, V.K. Kapoor - Fundamentals of Mathematical Statistics	Google Classroom (Class Code : pf5pfi7)
2 13th – 18th July 2020	Definition of Probability (Classical and Axiomatic), Independence of events , Addition theorem	S. C. Gupta, V.K. Kapoor - Fundamentals of Mathematical Statistics	Google Classroom (Class Code : pf5pfi7)
3 20th – 25th July 2020	conditional probability and its Problems	S. C. Gupta, V.K. Kapoor - Fundamentals of Mathematical Statistics	Google Classroom (Class Code : pf5pfi7)
4 27th July – 1st Aug 2020	Multiplication Law of probability , Bayes' theorem,	S. C. Gupta, V.K. Kapoor - Fundamentals of Mathematical Statistics	Google Classroom (Class Code : pf5pfi7)
5 3rd -8th Aug 2020	Discrete and continuous random variables. Definition-Probability distribution and distribution function	S. C. Gupta, V.K. Kapoor - Fundamentals of Mathematical Statistics	Google Classroom (Class Code : pf5pfi7)
6 10th – 14th Aug 2020	Definition of a two dimensional random variable, Probability distribution and probability density function, Marginal and conditional distributions	S. C. Gupta, V.K. Kapoor - Fundamentals of Mathematical Statistics	Google Classroom (Class Code : pf5pfi7)
7 17th – 22nd Aug 2020	Marginal and conditional distributions, Stochastic independence of random variables, Mathematical Expectation and its	S. C. Gupta, V.K. Kapoor - Fundamentals of Mathematical Statistics	Google Classroom (Class Code : pf5pfi7)

	Properties		
8 24th – 29th Aug 2020	Variance, Standard deviation, Mean deviation, Tchebyshev's inequality.	S. C. Gupta, V.K. Kapoor - Fundamentals of Mathematical Statistics	Google Classroom (Class Code : pf5pfi7)
9 31st Aug – 5th Sep 2020	Moments, Raw and central moments, Relation between raw and central moments.	S. C. Gupta, V.K. Kapoor - Fundamentals of Mathematical Statistics	Google Meet for Online classes Google Classroom for Offline classes (Class Code : pf5pfi7)
10 7th – 11th Sep 2020	Moment generating function (mgf), Properties of mgf - Uniqueness theorem (statement only)	S. C. Gupta, V.K. Kapoor - Fundamentals of Mathematical Statistics	Google Meet for Online classes Google Classroom for Offline classes (Class Code : pf5pfi7)
11 14th – 19th Sep 2020	Characteristic function and its Properties,. Problems.	S. C. Gupta, V.K. Kapoor - Fundamentals of Mathematical Statistics	Google Meet for Online classes Google Classroom for Offline classes (Class Code : pf5pfi7)
12 21st – 26th Sep 2020	Binomial, Poisson distributions	S. C. Gupta, V.K. Kapoor - Fundamentals of Mathematical Statistics	Google Meet for Online classes Google Classroom for Offline classes (Class Code : pf5pfi7)
13 28th Sep - 3rd Oct 2020	Normal distributions and its Problems.	S. C. Gupta, V.K. Kapoor - Fundamentals of Mathematical Statistics	Google Meet for Online classes Google Classroom for Offline classes (Class Code : pf5pfi7)
14 5th – 10th Oct 2020	Uniform and Rectangular distributions and its Problems.	S. C. Gupta, V.K. Kapoor - Fundamentals of Mathematical Statistics	Google Meet for Online classes Google Classroom for Offline classes (Class Code : pf5pfi7)
15 12th – 17 Oct 2020	Correlation, Types of correlation, Karl Pearson's coefficient of correlation	S. C. Gupta, V.K. Kapoor - Fundamentals of Mathematical Statistics	Google Meet for Online classes Google Classroom for Offline classes (Class Code : pf5pfi7)
16 19th – 24th Oct 2020	Properties of correlation coefficient, Spearman's rank correlation coefficient	S. C. Gupta, V.K. Kapoor - Fundamentals of Mathematical Statistics	Google Meet for Online classes Google Classroom for Offline classes

			(Class Code : pf5pfi7)
17 26th – 31st Oct 2020	Computation of correlation and rank correlation coefficient for raw and grouped data.	S. C. Gupta, V.K. Kapoor - Fundamentals of Mathematical Statistics	Google Meet for Online classes Google Classroom for Offline classes (Class Code : pf5pfi7)
18 2nd – 7th Nov 2020	. Regression lines, Derivation, Angle between regression lines	S. C. Gupta, V.K. Kapoor – Fundamentals of Mathematical Statistics	Google Meet for Online classes Google Classroom for Offline classes (Class Code : pf5pfi7)
19 9th -13th Nov 2020	Regression coefficient, Properties	S. C. Gupta, V.K. Kapoor – Fundamentals of Mathematical Statistics	Google Meet for Online classes Google Classroom for Offline classes (Class Code : pf5pfi7)
20 16th – 18th Nov 2020	Computation of regression lines for raw and grouped data	S. C. Gupta, V.K. Kapoor – Fundamentals of Mathematical Statistics	Google Meet for Online classes Google Classroom for Offline classes (Class Code : pf5pfi7)
21 27 Nov 2020	Revisions	S. C. Gupta, V.K. Kapoor – Fundamentals of Mathematical Statistics	Google Meet for Online classes
22 30th Nov – 4th Dec 2020	Revisions	S. C. Gupta, V.K. Kapoor – Fundamentals of Mathematical Statistics	Google Meet for Online classes
23 7th – 8th Dec 2020	Revisions	S. C. Gupta, V.K. Kapoor – Fundamentals of Mathematical Statistics	Google Meet for Online classes
24 9th – 6th Dec 2020	Study Holidays		
25 17th – 23rd 2020	Semester Examination		

Lesson plan for the Academic year (2020-2021)

SEMESTER - I

Class: I. M. Sc MATHEMATICS

Course: MODERN ALGEBRA

Course Code: PCMAA20

Staff In-charge: Ms. A.PRIYA

Week	Portions to be covered	Reference	Platform
1 12th-17th Oct 2020	**Unit:1** Another Counting principle	Topics in Algebra – I.N. Herstein	Online meet link: **https://meet.google.com/smr-ynsk-kkq** Google Classroom Class Code:**avvdif4** Videos and PPTs, exercises are posted in the Classroom
2 19th – 24th Oct 2020	Another Counting principle, Sylow's theorem	Topics in Algebra – I.N. Herstein	Online meet link: **https://meet.google.com/smr-ynsk-kkq** Google Classroom Class Code:**avvdif4** Videos and PPTs, exercises are posted in the Classroom
3 26th -31st Oct 2020	Sylow's theorem **Unit 2:** Direct product	Topics in Algebra – I.N. Herstein	Online meet link: **https://meet.google.com/smr-ynsk-kkq** Google Classroom Class Code:**avvdif4** Videos and PPTs, exercises are posted in the Classroom
4 2nd -6th Nov 2020	Extension Fields, Splitting field	Topics in Algebra – I.N. Herstein	Online meet link: **https://meet.google.com/smr-ynsk-kkq** Google Classroom Class Code:**avvdif4** Videos and PPTs, exercises

			are posted in the Classroom
5 9th -13th Nov 2020	**Unit 3:** Trancedence e,	Topics in Algebra – I.N. Herstein	Online meet link: **https://meet.google.com/smr-ynsk-kkq** Google Classroom Class Code:**avvdif4** Videos and PPTs, exercises are posted in the Classroom
6 16th -21st Nov 2020	Roots of a polynomial, Remainder theorem and its lemmas, Corollary	Topics in Algebra – I.N. Herstein	Online meet link: **https://meet.google.com/smr-ynsk-kkq** Google Classroom Class Code:**avvdif4** Videos and PPTs, exercises are posted in the Classroom
7 23rd -28th Nov 2020	Roots of a polynomial, Splitting Field	Topics in Algebra – I.N. Herstein	Online meet link: **https://meet.google.com/smr-ynsk-kkq** Google Classroom Class Code:**avvdif4** Videos and PPTs, exercises are posted in the Classroom
8 30th Nov - 5th Dec 2020	**CA-1** More about roots	Topics in Algebra – I.N. Herstein	Online meet link: **https://meet.google.com/smr-ynsk-kkq** Google Classroom Class Code:**avvdif4** Videos and PPTs, exercises are posted in the Classroom
9 7th – 11th Dec 2020	**Unit 4:** The elements of Galios theory,	Topics in Algebra – I.N. Herstein	Online meet link: **https://meet.google.com/smr-ynsk-kkq** Google Classroom Class Code:**avvdif4** Videos and PPTs, exercises are posted in the Classroom

10 14th -19th Dec 2020	**Unit 4:** The elements of Galios theory	Topics in Algebra – I.N. Herstein	Online meet link: **https://meet.google.com/smr-ynsk-kkq** Google Classroom Class Code:**avvdif4** Videos and PPTs, exercises are posted in the Classroom
11 21st -22th Dec 2020	**Unit 5:** Solvability by radicals	Topics in Algebra – I.N. Herstein	Online meet link: **https://meet.google.com/smr-ynsk-kkq** Google Classroom Class Code:**avvdif4** Videos and PPTs, exercises are posted in the Classroom
12 23rd – 31st Dec 2020	**Unit 5:** Solvability by radicals, Polynomial rings	Topics in Algebra – I.N. Herstein	Online meet link: **https://meet.google.com/smr-ynsk-kkq** Google Classroom Class Code:**avvdif4** Videos and PPTs, exercises are posted in the Classroom

Academic Year 2020-2021

Even Semesters

Lesson Plan for the year 2020-2021

II B.Sc., Mathematics – Mathematical statistics – II } – 4 hrs.

III B.Sc., Mathematics – Linear Algebra } → 6 hrs.

I M.Sc., Mathematics – Linear Algebra } → 5 hrs.

II M.Sc., Mathematics – Project hr → 1 hr

Total hr : 16 hrs.

ACADEMIC YEAR (2020-2021) Even Semester

Months	weeks	II B.Sc., Mathematics VAMSB15 - Mathematical Statistics	III B.Sc., Mathematics UCMAL-15 - Linear Algebra	I M.Sc., Mathematics PCMAE20 - Linear Algebra.
JANUARY	1	Parameter and statistic, Sampling distribution, Standard error, Sampling distribution of Statistics	Def of vector space - subspaces - Homo-morphism - Quotient spaces -	Def of a vector space, Subspace, Homomorphism, Quotient space, Canonical form: Triangular form
	2	Chi-square distribution, moment generating function, mean, Variance, additive property, Student's t distribution	Internal external direct sum - Linear span, Linear independence, Dependence	Nilpotent transformation.
	3	Moment, Limiting form of t distribution - F distribution, mean, Variance	Basis, Dimension of a vector space	Nilpotent transformation
	4	U-M Point estimation, Unbiasedness, efficiency and sufficiency, Cramer Rao inequality	Dual spaces - Hom(V, W) - Hom(V, V) and Hom(V, F).	Jordan form
FEBRUARY	1	Rao Blackwell Theorem, Methods of estimation, methods of moments	Inner product spaces - Norm of a vector - Schwartz inequality	Rational Canonical form
	2	Method of maximum likelihood estimation, Interval estimation	Orthogonal complement -	Rational Canonical form
	3	CI for mean difference means, Proportion, Difference in proportion	Gram schmidt orthogonalization	Hermitian
	4	Interval estimation, Difference in proportion.	Orthogonal complement.	Unitary
MARCH	1	I CA Examination	I CA Examination	I CA Examination
	2	Unit: 3 Statistical hypothesis - Null hypothesis, Critical region - Type I, Type II error, Level of Significance	Def of linear transformation - Minimal polynomial - regular trans-formation	Normal transformation
	3	Test for small and large samples based on normal, t-distribution	Singular transformation	Normal transformation
	4	and F-distribution with regard to mean, variance and coefficient of correlation	Rank of a linear transformation - characteristic roots of a linear T	Real Quadratic form

	4	th mean, variance and coefficient of correlation	characteristic vectors – matrix	Real Quadratic form Finite finite fields
APRIL	1	Unit 4 Chi-square test of goodness of fit – Attributes – coefficient of association	of a L.T	Finite fields, Weddburns theorem
	2	Coefficient of association, Contingency table – Chisquare test for independence attributes	Isomorphism of Vector Sp – Triangular form	II CA Examinations
	3	II CA Examinations	II CA Examinations	Finite fields, Forbenius thm, Left division algorithm, Four square theorem.
	4	Unit: 5 Analysis of Variance, One way	Trace, transpose	Four square theorem.
MAY	1	type classification, Basic principles of design of experiments, Randomized block design. LSD	Determinants	Revision
	2	Revision	Revision	
	3		SEMESTER EXAMINATIONS BEGIN.	

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PG and Research Department of Mathematics
LESSON PLAN for the Academic year (2020-2021)
SEMESTER - I
Class: I M.Sc. Mathematics
Course: Complex Analysis
Course Code: PCMAC20
Staff In-charge: Dr. Priyanka Victor

Week	Portions Covered	Reference	Methods of Teaching
28th Sep – 3rd Oct 2020	-	-	-
5th – 10th Oct 2020	-	-	-
1 12 – 17th Oct 2020	UNIT II Line Integrals, Theorems on Line Integrals, Rectifiable arcs	Complex Analysis- Lars V. Alfors	Google Meet for online classes Google Classroom for offline classes (Class Code: pavpj5v)
2 19th – 24th Oct 2020	Line integrals as functions of arcs (Theorems and Problems)	Complex Analysis- Lars V. Alfors	Google Meet for online classes Google Classroom for offline classes (Class Code: pavpj5v)
3 26th – 31st Oct 2020	Cauchy's Theorem for a Rectangle, Extension Theorem on Rectangle, Cauchy's Theorem for a Disc, Extension Theorem on Disc	Complex Analysis- Lars V. Alfors	Google Meet for online classes Google Classroom for offline classes (Class Code: pavpj5v)
4 2nd – 7th Nov 2020	UNIT III Index of a point with respect to a closed curve , Theorems	Complex Analysis- Lars V. Alfors	Google Meet for online classes Google Classroom for offline classes (Class Code: pavpj5v)

5 9th – 13th Nov 2020	Theorem on closed curves, Cauchy Integral formula	Complex Analysis- Lars V. Alfors	Google Meet for online classes Google Classroom for offline classes (Class Code: pavpj5v)
6 16th – 18th Nov 2020	Taylor's theorem, zeroes and poles	Complex Analysis- Lars V. Alfors	Google Meet for online classes Google Classroom for offline classes (Class Code: pavpj5v)
7 27th Nov 2020	Taylor's Extension Thoerem	Complex Analysis- Lars V. Alfors	Google Meet for online classes Google Classroom for offline classes (Class Code: pavpj5v)
8 30th Nov-5th Dec 2020	UNIT IV Theorem on Local Mapping, Theorem on Local correspondence, Maximum Modulus principle, Schwartz lemma	Complex Analysis- Lars V. Alfors	Google Meet for online classes Google Classroom for offline classes (Class Code: pavpj5v)
9 7th Dec-11th Dec 2020	Cauchy theorem, Chains and Cycles, Theorems, Connected Sets, General statement of Cauchy's Theorem	Complex Analysis- Lars V. Alfors	Google Meet for online classes Google Classroom for offline classes (Class Code: pavpj5v)
10 14th Dec-18th Dec 2020	UNIT V Cauchy Residue Theorem, Argument Principle, Rouche's Theorem and Problems, Harmonic Function and theorems.	Complex Analysis- Lars V. Alfors	Google Meet for online classes Google Classroom for offline classes (Class Code: pavpj5v)
11 21st Dec-23rd Dec 2020	Mean Value property of Harmonic Function, Poission formula of Harmonic function, Schwartz theorem and formula	Complex Analysis- Lars V. Alfors	Google Meet for online classes Google Classroom for offline classes (Class Code: pavpj5v)
12 28th Dec 2020-1st Jan 2021	UNIT I Theorem on sequence and series, uniform convergence, Abel's limit theorem	Complex Analysis- Lars V. Alfors	Google Meet for online classes Google Classroom for offline classes (Class Code: pavpj5v)
13 4th Jan 2021-8th Jan 2021	Conformal Mapping, Theorems on Cross ratio and symmetry	Complex Analysis- Lars V. Alfors	Google Meet for online classes Google Classroom for offline classes (Class Code: pavpj5v)

Auxilium College (Autonomous), Gandhi Nagar, Vellore – 632 006
PG and Research Department of Mathematics
Work done for the Academic year (2020-2021)
SEMESTER - I
Class: I M.Sc. Mathematics
Course: Complex Analysis
Course Code: PCMAC20
Staff In-charge: Dr. Priyanka Victor

Date	Class	Portions Covered	Reference	Methods of Teaching
28th Sep – 3rd Oct 2020	I M.Sc. Mathematics	-	-	-
5th – 10th Oct 2020	I M.Sc. Mathematics	-	-	-
12 – 17th Oct 2020	I M.Sc. Mathematics	UNIT II Line Integrals, Theorems on Line Integrals, Rectifiable arcs	Complex Analysis- Lars V. Alfors	https://meet.google.com/aof-ctwi-tux (12.10.2020) (10.15 a.m.-11.15 a.m.)
				https://meet.google.com/aof-ctwi-tux (15.10.2020) (10.15 a.m.-11.15 a.m.)
				https://meet.google.com/aof-ctwi-tux (16.10.2020) (11.30 a.m.-12.30 p.m.)
19th – 24th Oct 2020	I M.Sc. Mathematics	Line integrals as functions of arcs (Theorems and Problems)	Complex Analysis- Lars V. Alfors	Google Classroom (Class Code: pavpj5v) Test was conducted in the Classroom (19.10.2020) (1.30 p.m.-2.30 p.m.)
				https://meet.google.com/aof-ctwi-tux (20.10.2020) (10.15 a.m.-11.15 a.m.)
				Google Classroom (Class Code: pavpj5v) Videos and PPTs are posted in the Classroom (21.10.2020)
				Google Classroom (Class Code: pavpj5v)

				Videos and PPTs are posted in the Classroom (22.10.2020) (2.45 p.m.-3.45p.m.)
				https://meet.google.com/aof-ctwi-tux (23.10.2020) (10.15 a.m.-11.15 a.m.)
26th – 31st Oct 2020	I M.Sc. Mathematics	Cauchy's Theorem for a Rectangle, Extension Theorem on Rectangle, Cauchy's Theorem for a Disc, Extension Theorem on Disc	Complex Analysis- Lars V. Alfors	https://meet.google.com/aof-ctwi-tux (27.10.2020) (11.30 a.m.-12.30 p.m.)
				Google Classroom (Class Code: pavpj5v) Test on Cauchy Theorem on Rectangle was conducted in the Classroom (28.10.2020) (1.30 p.m.-2.30 p.m.)
				https://meet.google.com/aof-ctwi-tux (29.10.2020) (10.15 a.m.-11.15 a.m.)
2nd – 7th Nov 2020	I M.Sc. Mathematics	UNIT III Index of a point with respect to a closed curve , Theorems	Complex Analysis- Lars V. Alfors	Google Classroom (Class Code: pavpj5v) Videos and PPTs are posted in the Classroom (02.11.2020) (1.30 p.m.-2.30 p.m.)
				Google Classroom (Class Code: pavpj5v) Videos and PPTs are posted in the Classroom (03.11.2020) (2.45 p.m.-3.45p.m.)
				https://meet.google.com/aof-ctwi-tux (04.11.2020) (10.15 a.m.-11.15 a.m.)
				https://meet.google.com/aof-ctwi-tux (05.11.2020) (11.30 a.m.-12.30 p.m.)
				Google Classroom

				(Class Code: pavpj5v) Test on Integral formula was conducted in the Classroom (06.11.2020) (1.30 p.m.-2.30 p.m.)
9th – 13th Nov 2020	I M.Sc. Mathematics	Theorem on closed curves, Cauchy Integral formula	Complex Analysis- Lars V. Alfors	https://meet.google.com/aof-ctwi-tux (09.11.2020) (10.15 a.m.-11.15 a.m.)
				Google Classroom (Class Code: pavpj5v) Test was conducted in the Classroom (10.11.2020) (1.30 p.m.-2.30 p.m.)
				https://meet.google.com/aof-ctwi-tux (12.11.2020) (10.15 a.m.-11.15 a.m.)
				https://meet.google.com/aof-ctwi-tux (13.11.2020) (11.30 a.m.-12.30 p.m.)
16th – 18th Nov 2020	I M.Sc. Mathematics	Taylor's theorem, zeroes and poles	Complex Analysis- Lars V. Alfors	Google Classroom (Class Code: pavpj5v) Test on Unit II was conducted in the Classroom (16.11.2020) (2.45 p.m.-3.45p.m.)
				https://meet.google.com/aof-ctwi-tux (17.11.2020) (10.15 a.m.-11.15 a.m.)
27th Nov 2020	I M.Sc. Mathematics	Taylor's Extension Thoerem	Complex Analysis- Lars V. Alfors	https://meet.google.com/aof-ctwi-tux (27.11.2020) (10.15 a.m.-11.15 a.m.)

30th Nov-5th Dec 2020	I M.Sc. Mathematics	UNIT III Theorem on Local Mapping, Theorem on Local correspondence, Maximum Modulus principle, Schwartz lemma	Complex Analysis- Lars V. Alfors	https://meet.google.com/aof-ctwi-tux (30.11.2020) (9.30 a.m.-10.30 a.m.)
				https://meet.google.com/aof-ctwi-tux (01.12.2020) (10.30 a.m.-11.30 a.m.)
				https://meet.google.com/aof-ctwi-tux (02.12.2020) (11.30 a.m.-12.30 a.m.)
				https://meet.google.com/aof-ctwi-tux (03.12.2020) (8.30 a.m.-9.30 a.m.)
				https://meet.google.com/aof-ctwi-tux (04.12.2020) (11.30 a.m.-12.30 a.m.)
				https://meet.google.com/aof-ctwi-tux (05.12.2020) (11.30 a.m.-12.30 a.m.)
7th Dec-8th Dec 2020	I M.Sc. Mathematics	Cauchy theorem, Chains and Cycles, Theorems	Complex Analysis- Lars V. Alfors	https://meet.google.com/aof-ctwi-tux (07.12.2020) (17.30 a.m.-18.30 a.m.)
				https://meet.google.com/aof-ctwi-tux (08.12.2020) (14.30 a.m.-15.30 a.m.)

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

PG and Research Department of Mathematics

Lesson Plan for the Academic year (2020-2021)

SEMESTER - III

Class: II M.Sc. Mathematics

Course: Topology

Course Code: PCMAI15

Staff In-charge: Dr. Priyanka Victor

Week	Portions Covered	Reference	Platform (LMS)
1 8th - 11th July 2020	-	-	-
2 13th – 18th July 2020	-	-	-
3 20th – 25th July 2020	-	-	-
4 27th July – 1st Aug 2020	-	-	-
5 3rd – 8th Aug 2020	-	-	-
6 10th – 14th Aug 2020	-	-	-
7	-		-

17th -22nd Aug 2020			
8 24th – 29th Aug 2020	-		-
9 31st Aug – 5th Sep 2020	-	-	-
10 7th -11th Sep 2020	Theorems on First and Second Countability Axiom	Topology – James R. Munkres	Google Meet for online classes Google Classroom for offline classes (Class Code: 2e3vift)
11 14th - 19th Sep 2020	Theorem on Closed and open spaces	Topology – James R. Munkres	Google Meet for online classes Google Classroom for offline classes (Class Code: 2e3vift)
12 21st – 26th Sep 2020	Theorems on Hausdroff spaces	Topology – James R. Munkres	Google Meet for online classes Google Classroom for offline classes (Class Code: 2e3vift)
13 28th Sep – 3rd Oct 2020	Theorem on Normal spaces	Topology – James R. Munkres	Google Meet for online classes Google Classroom for offline classes (Class Code: 2e3vift)
14 5th – 10th Oct 2020	Ursyhon Lemma	Topology – James R. Munkres	Google Meet for online classes Google Classroom for offline classes (Class Code: 2e3vift)
15 12 – 17th Oct 2020	Ursyhon Metrization Theorem	Topology – James R. Munkres	Google Meet for online classes Google Classroom for offline classes (Class Code: 2e3vift)

16 19th – 24th Oct 2020	Tietez extension Theorem	Topology – James R. Munkres	Google Meet for online classes Google Classroom for offline classes (Class Code: 2e3vift)
17 26th – 31st Oct 2020	Tychnoff Theorem	Topology – James R. Munkres	Google Meet for online classes Google Classroom for offline classes (Class Code: 2e3vift)
18 2nd – 7th Nov 2020	Revision	Topology – James R. Munkres	Google Meet for online classes Google Classroom for offline classes (Class Code: 2e3vift)
19 9^{th} – 13^{th} Nov 2020	Revision	Topology – James R. Munkres	Google Meet for online classes Google Classroom for offline classes (Class Code: 2e3vift)
20 16^{th} – 18^{th} Nov 2020	Revision	Topology – James R. Munkres	Google Meet for online classes Google Classroom for offline classes (Class Code: 2e3vift)
21 27^{th} Nov 2020	Revision	Topology – James R. Munkres	Google Meet for online classes Google Classroom for offline classes (Class Code: 2e3vift)
22 30^{th} Nov-5^{th} Dec 2020	Revision	Topology – James R. Munkres	Google Meet for online classes Google Classroom for offline classes (Class Code: 2e3vift)
23 7^{th} Dec-8^{th} Dec 2020	Revision	Topology – James R. Munkres	Google Meet for online classes Google Classroom for offline classes (Class Code: 2e3vift)

Auxilium College (Autonomous), Gandhi Nagar, Vellore – 632 006
PG and Research Department of Mathematics
Lesson Plan for the Academic year (2020-2021)
SEMESTER - III
Class: II M.Sc. Mathematics
Course: Topology
Course Code: PCMAI15
Staff In-charge: Dr. Priyanka Victor

Date	Class	Portions Covered	Reference	Methods of Teaching
7th -11th Sep 2020	II M.Sc Mathematics	Theorems on First and Second Countability Axiom	Topology- James R. Munkres	https://meet.google.com/zqi-rihu-jcf (11.09.2020) (11.30a.m.-12.30p.m.)
14th - 19th Sep 2020	II M.Sc Mathematics	Theorem on Closed and open spaces	Topology- James R. Munkres	https://meet.google.com/ssu-tbhf-unq (14.09.2020) (10.15a.m.-11.15a.m.)
				https://meet.google.com/ujj-wimf-efg (16.09.2020) (10.15a.m.-11.15a.m.)
21st – 26th Sep 2020	II M.Sc Mathematics	Theorems on Hausdroff spaces	Topology- James R. Munkres	https://meet.google.com/nwx-aoqo-vaa (23.09.2020) (10.15a.m.-11.15a.m.)
28th Sep – 3rd Oct 2020	II M.Sc Mathematics	Theorem on Normal spaces	Topology- James R. Munkres	https://meet.google.com/nwx-aoqo-vaa (30.09.2020) (10.15a.m.-11.30a.m.)
5th – 10th Oct 2020	II M.Sc Mathematics	Ursyhon Lemma	Topology – James R. Munkres	https://meet.google.com/nwx-aoqo-vaa (08.10.2020) (10.15a.m.-11.30a.m.)
				https://meet.google.com/nwx-aoqo-vaa (09.10.2020) (10.15a.m.-11.30a.m.)
12 – 17th Oct 2020	II M.Sc Mathematics	Ursyhon Metrization Theorem	Topology – James R. Munkres	https://meet.google.com/nwx-aoqo-vaa (12.10.2020) (10.15a.m.-11.30a.m.)

				https://meet.google.com/nwx-aoqo-vaa (16.10.2020) (10.15a.m.-11.30a.m.)
19th – 24th Oct 2020	II M.Sc Mathematics	Tietez extension Theorem	Topology – James R. Munkres	https://meet.google.com/nwx-aoqo-vaa (20.10.2020) (11.30a.m.-12.30p.m.)
26th – 31st Oct 2020	II M.Sc Mathematics	Tychnoff Theorem	Topology – James R. Munkres	https://meet.google.com/nwx-aoqo-vaa (29.10.2020) (11.30a.m.-12.30p.m.)
2nd – 7th Nov 2020	II M.Sc Mathematics	Revision	Topology – James R. Munkres	https://meet.google.com/nwx-aoqo-vaa (06.11.2020) (11.30a.m.-12.30p.m.)
9^{th} – 13^{th} Nov 2020	II M.Sc Mathematics	-	-	-
16^{th} – 18^{th} Nov 2020	II M.Sc Mathematics	-	-	-
27^{th} Nov 2020	II M.Sc Mathematics	-	-	-

30th Nov-5th Dec 2020	II M.Sc Mathematics	Revision	Topology – James R. Munkres	https://meet.google.com/nwx-aoqo-vaa (02.12.2020) (10.30a.m.-11.30a.m.)
7th Dec-8th Dec 2020	II M.Sc Mathematics	-	-	-

Sd. Faya

LESSON PLAN FOR

2020-2021
(EVEN SEMESTER)

PAPERS HANDLED

III B.Sc. Mathematics : Object Oriented Programming using C++

II B.Sc. Computer Science : Numerical Analysis II.

I M.Sc. Mathematics : LaTex and MATLAB

II M.Sc. Mathematics : Functional Analysis

Month	Wk	III B.Sc. MATHEMATICS	I M.Sc MATHEMATICS	II C.Sc. (ALLIED)	II M.Sc MATHS.
	2	Basic concepts & benefits of OOP, Structure of C++, keywords, Tokens	Fonts and Paragraphs in Latex	Bisection method & problems	Hilbert space defn and examples
	3	Identifiers, constants Basic data types, User defined & derived data types	Lists, Tables and Special characters	Iteration method & problems	Theorems on H.S and Schwartz Inequality
DEC	4	Symbolic constants, type compatability Declaration of variables	Line, Page breaks and Spacings	Iteration method & problems	Parallelogram law & Convex set theorems
	5	Dynamic initialization of variables. Reference variables	~~Bib~~ HOLIDAYS.		
	1	Operators in C++, scope resolution operator, member dereferencing op.	Bibliography & Biblex in Latex	Newton Raphson method & problems	Polarisation Identity
JAN	2	Memory management operators, Type cast operators	Create a document to file to prepare a book chapter	N-R method & problems	Orthogonal complement defn
	3	Expressions and their types, special assign ment operators	Mathematical symbols and functions in Latex	Regula Falsi method & problems	orthogonal complement proofs
	4	special assignment operators, Implicit conversions	Equations and Arrays, derivatives and integrals in latex	R-F method & problems	pythagoras theorem & theorems
		operator overloading	Theorems and	Newton's forward	Orthogonal set

			in latex			
FEB	1	operator overloading Programs	Theorems and definitions in Latex	Newton's forward & Backward difference Methods	Orthonormal set theorems	
	2	operator precedence & control structures	Graphics in Latex	Derivatives using stirlings formula	Bessel's Inequality Theorems	
	3	Revision of Unit I	Making special parts, front matter	Problems.	Orthogonal decomposition theorem	
	4	Revision of Unit II.	Back matter, Create a document to prepare an article	Maxima & minima of Tabulation - Problems.	Revision	
MAR	1		I CA EXAMINATIONS.			
	2	Funtion Prototype, call & return by reference, Inline fns, function overloading	starting MATLAB, in Windows, Working in Command Window	Trapezoidal rule problems	conjugate space defn & properties	
	3	Making an outside fn inline, Nesting of member fns, Private member fns	Arithmetic operations with scalars, Using MATLAB as calculator.	Trapezoidal rule problems.	adjoint operator theorems & self adjoint operator	
	4	Arrays within class, Static data members & member functions	Display formats, Elementary built-in functions	Simpsons 1/3 rule problems	Theorems on self adjoint operator	
	5	objects as function args, Returning objects friendly functions	Defining scalar variables, script files	Simpsons 3/8 rule problems	Banach spaces	
APR	1	Dev Constructor-Types-destructors - operator overloading	Creating one dimensional array	Problems	Theorems.	

		II B.Sc MATHS	I.M.Sc. MATHS	II C.Sc. (ALLIED)	II M.Sc. MATHS.	
	2	operator overloading unary and binary	Creating two dimensional array, Transpose operator, Array multiplication & division	Weddle's rule problems.	Revision	
	3		II CA EXAMINATIONS.			
	4	Derived class, single Inheritance, Multilevel inheritance	Element by element operations, using arrays in MATLAB	Taylor's Series First order	–	
MAY	1	Multiple, heirarchal and hybrid Inheritance	System, system boundary	General Picard's Iteration formula.	–	
	2	Virtual base class & abstract class	System components, classification of systems	Eulers method Problems	–	
	3	Pointers to objects - C++ streams	Type of components according to complexity of systems	Improved Euler method problems	–	
	4	Unformatted I/O operations - Managing output with manipulators	Linear systems, Superposition theorem Homogeneous equations	Runge kutta method of second order.	–	
			EVEN SEMESTER EXAMINATIONS			

WORK DONE

AND

LESSON PLAN

ODD SEMESTER

2020-2021

DR. S. YUVARANI

DEPT. OF MATHEMATICS(SEC- C)

Auxilium College (Autonomous), Gandhi Nagar, Vellore- 632 006

PG and Research Department of mathematics

Lesson Plan for the Academic year (2020-2021)

SEMESTER - III

Class: II M. Sc Mathematics

Course: Graph Theory

Course Code: PCMAJ19

Staff in-Charge; Dr. S. Yuvarani

Week	**Portions to be covered**	**Reference**	**Platform (LMS)**
1 8Th – 11th July 2020	-	-	-
2 13th – 18th July 2020	**UNIT - I** Graphs and Simple Graphs - Graph Isomorphism	Graph Theory and Applications– Bondy J. A. and Murty U. S. R	Google Class Room (Class Code – bz23vr2)
3 20th – 25th July 2020	Incidence and adjacency Matrices - Subgraphs	Graph Theory and Applications– Bondy J. A. and Murty	Google Class Room (Class Code – bz23vr2)

		U. S. R	
4 27th – 1st Aug 2020	Vertex degrees - Paths and connection	Graph Theory and Applications– Bondy J. A. and Murty U. S. R	Google Class Room (Class Code – bz23vr2)
5 3rd – 8th Aug 2020	Cycles - The shortest path problem.	Graph Theory and Applications– Bondy J. A. and Murty U. S. R	Google Class Room (Class Code – bz23vr2)
6 10th – 14th Aug 2020	**UNIT – II** Trees - Cut Edges and Bonds	Graph Theory and Applications– Bondy J. A. and Murty U. S. R	Google Class Room (Class Code – bz23vr2)
7 17th -22nd Aug 2020	Cut Vertices - Cayley's Formula	Graph Theory and Applications– Bondy J. A. and Murty U. S. R	Google Class Room (Class Code – bz23vr2)
8 24th – 29th Aug 2020	The Connector problem- Connectivity – Blocks	Graph Theory and Applications– Bondy J. A. and Murty U. S. R	Google Class Room (Class Code – bz23vr2)

9 31st – 5th Sep 2020	**UNIT – III** Euler Tours-Hamilton Cycles	Graph Theory and Applications– Bondy J. A. and Murty U. S. R	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – bz23vr2)
10 7th -11th Sep 2020	The Chinese postman problem **CA I**	Graph Theory and Applications– Bondy J. A. and Murty U. S. R	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – bz23vr2)
11 14th- 19th Sep 2020	The travelling salesman problem	Graph Theory and Applications– Bondy J. A. and Murty U. S. R	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – bz23vr2)
12 21st – 26th Sep 2020	**UNIT – IV** Matchings - Matchings and coverings in bipartite graphs	Graph Theory and Applications– Bondy J. A. and Murty U. S. R	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – bz23vr2)
13 28th – 3rd Oct 2020	problem Perfect matching - The personnel problem	Graph Theory and Applications– Bondy J. A. and Murty U. S. R	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – bz23vr2)

14 5th – 10th Oct 2020	The assignment problem - Independent Sets	Graph Theory and Applications– Bondy J. A. and Murty U. S. R	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – bz23vr2)
15 12 – 17th Oct 2020	**UNIT – IV** Chromatic Number- Brook's theorem	Graph Theory and Applications– Bondy J. A. and Murty U. S. R	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – bz23vr2)
16 19th – 24th Oct 2020	Chromatic Polynomials- Plane and planar graphs	Graph Theory and Applications– Bondy J. A. and Murty U. S. R	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – bz23vr2)
17 26th – 31st Oct 2020	Dual graphs - Euler's formula	Graph Theory and Applications– Bondy J. A. and Murty U. S. R	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – bz23vr2)
18 2nd – 7th Nov 2020	Theorems on Euler's formula - The Five Colour theorem **CA II**	Graph Theory and Applications– Bondy J. A. and Murty U. S. R	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – bz23vr2)

9^{th} – 13^{th} Nov 2020	The Four-Colour Conjecture - Revision	Graph Theory and Applications– Bondy J. A. and Murty U. S. R	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – bz23vr2)
16^{th} – 18^{th} Nov 2020	Revision	Graph Theory and Applications– Bondy J. A. and Murty U. S. R	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – bz23vr2)
27th Nov 2020	Revision	Graph Theory and Applications– Bondy J. A. and Murty U. S. R	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – bz23vr2)
30th Nov – 5t h Dec 2020	Revision	Graph Theory and Applications– Bondy J. A. and Murty U. S. R	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – bz23vr2)
7th – 8th Dec 2020	Revision	Graph Theory and Applications– Bondy J. A. and Murty U. S. R	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – bz23vr2)

Auxilium College (Autonomous), Gandhi Nagar, Vellore- 632 006

PG and Research Department of mathematics

Lesson Plan for the Academic year (2020-2021)

SEMESTER - III

Class: II BBA

Course: Operations Research I

Course Code: UCBAG15

Staff in-Charge; Dr. S. Yuvarani

Week	**Portions to be covered**	**Reference**	**Platform (LMS)**
1 8Th – 11th July 2020	-	-	-
2 13th – 18th July 2020	**UNIT I** Definition of Operations Research , Scope of operations Research	Operations Research – Premkumar Gupta and Hira D.S. First Edition, 1998	Google meet and Google Class Room (Class Code – 3s5hld7)
3 20th – 25th July 2020	Characteristics of Operations Research, Models of Operations Research	Operations Research – Premkumar Gupta and Hira D.S.	Google meet and Google Class Room (Class Code – 3s5hld7)

		First Edition, 1998	
4 27th – 1st Aug 2020	Iconic Model, Analog Model, Symbolic Model	Operations Research – Premkumar Gupta and Hira D.S. First Edition, 1998	Google meet and Google Class Room (Class Code – 3s5hld7)
5 3rd – 8th Aug 2020	Linear Programing Problem – Formulation of LPP	Operations Research – Premkumar Gupta and Hira D.S. First Edition, 1998	Google meet and Google Class Room (Class Code – 3s5hld7)
6 10th – 14th Aug 2020	Problems on Formulation of LPP	Operations Research – Premkumar Gupta and Hira D.S. First Edition, 1998	Google meet and Google Class Room (Class Code – 3s5hld7)
7 17th -22nd Aug 2020	**UNIT II** Linear Programming - Graphical Method	Operations Research – Premkumar Gupta and Hira D.S. First Edition, 1998	Google meet and Google Class Room (Class Code – 3s5hld7)
8 24th – 29th Aug 2020	Simplex Method - Problems on Simplex Method	Operations Research – Premkumar Gupta and Hira D.S. First Edition, 1998	Google meet and Google Class Room (Class Code – 3s5hld7)

9 31st – 5th Sep 2020	Problems on Simplex Method - Unbounded solution, Infinite Number of solutions	Operations Research – Premkumar Gupta and Hira D.S. First Edition, 1998	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – 3s5hld7)
10 7th -11th Sep 2020	**UNIT III** Big M Method- Solving LPP using Artificial variables	Operations Research – Premkumar Gupta and Hira D.S. First Edition, 1998	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – 3s5hld7)
11 14th- 19th Sep 2020	Revision – Duality **CA I**	Operations Research – Premkumar Gupta and Hira D.S. First Edition, 1998	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – 3s5hld7)
12 21st – 26th Sep 2020	**UNIT IV** Transportation problem – Initial Basic solution using North West Corner rule, Least Cost Method	Operations Research – Premkumar Gupta and Hira D.S. First Edition, 1998	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – 3s5hld7)
13 28th – 3rd Oct 2020	Vogel's Approximation method – Degeneracy	Operations Research – Premkumar Gupta and Hira D.S. First Edition, 1998	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – 3s5hld7)

14 5th – 10th Oct 2020	Unbalanced Transportation Problem -Maximization Problem	Operations Research Premkumar Gupta and Hira D.S. First Edition, 1998	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – 3s5hld7)
15 12 – 17th Oct 2020	Test of Optimality using MODI Method **CA II**	Operations Research – Premkumar Gupta and Hira D.S. First Edition, 1998	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – 3s5hld7)
16 19th – 24th Oct 2020	**UNIT IV** Assignment Problem – Minimal Assignment Problem	Operations Research – Premkumar Gupta and Hira D.S. First Edition, 1998	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – 3s5hld7)
17 26th – 31st Oct 2020	Unbalanced Assignment Problem – Restricted Assignment Problem	Operations Research – Premkumar Gupta and Hira D.S. First Edition, 1998	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – 3s5hld7)
18 2nd – 7th Nov 2020	Maximization in Assignment Problem	Operations Research – Premkumar Gupta and Hira D.S. First Edition, 1998	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – 3s5hld7)

9th – 13th Nov 2020	Revision	Operations Research – Premkumar Gupta and Hira D.S. First Edition, 1998	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – 3s5hld7)
16th – 18th Nov 2020	Revision	Operations Research – Premkumar Gupta and Hira D.S. First Edition, 1998	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – 3s5hld7)
27th Nov 2020	Revision	Operations Research – Premkumar Gupta and Hira D.S. First Edition, 1998	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – 3s5hld7)
30th Nov – 5th Dec 2020	Revision	Operations Research – Premkumar Gupta and Hira D.S. First Edition, 1998	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – 3s5hld7)
7th – 8th Dec 2020	Revision	Operations Research – Premkumar Gupta and Hira D.S. First Edition, 1998	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – 3s5hld7)

Auxilium College (Autonomous), Gandhi Nagar, Vellore- 632 006

PG and Research Department of mathematics

Lesson Plan for the Academic year (2020-2021)

SEMESTER - III

Class: II B. Sc. Computer Science

Course: Numerical Analysis I

Course Code: UANAA15

Staff in-Charge; Dr. S. Yuvarani

Week	**Portions to be covered**	**Reference**	**Platform (LMS)**
1 8Th – 11th July 2020	-	-	-
2 13th – 18th July 2020	-	-	-
3 20th – 25th July 2020	-	-	-
4	-	-	-

27th – 1st Aug 2020			
5 3rd – 8th Aug 2020	-	-	-
6 10th – 14th Aug 2020	-	-	-
7 17th -22nd Aug 2020	-	-	-
8 24th – 29th Aug 2020	-	-	-
9 31st – 5th Sep 2020	-	-	-
10 7th -11th Sep 2020	Introduction – Divided differences	Numerical Methods by V.N.Vedamurthy	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – bz23vr2)

11 14th- 19th Sep 2020	Problems on Divided Differences	Numerical Methods by V.N.Vedamurthy	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – bz23vr2)
12 21st – 26th Sep 2020	Problems on Divided Differences	Numerical Methods by V.N.Vedamurthy	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – bz23vr2)
13 28th – 3rd Oct 2020	Newton's Divided difference formula	Numerical Methods by V.N.Vedamurthy	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – bz23vr2)
14 5th – 10th Oct 2020	Problems on Newton's Divided difference formula	Numerical Methods by V.N.Vedamurthy	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – bz23vr2)
15 12 – 17th Oct 2020	Problems on Newton's Divided difference formula	Numerical Methods by V.N.Vedamurthy	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – bz23vr2)
16 19th – 24th Oct 2020	Lagrange's interpolation formula	Numerical Methods by V.N.Vedamurthy	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – bz23vr2)

17 26th – 31st Oct 2020	Problems on Lagrange's interpolation formula	Numerical Methods by V.N.Vedamurthy	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – bz23vr2)
18 2nd – 7th Nov 2020	Revision	Numerical Methods by V.N.Vedamurthy	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – bz23vr2)
9th – 13th Nov 2020	Revision	Numerical Methods by V.N.Vedamurthy	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – bz23vr2)
16th – 18th Nov 2020	Revision	Numerical Methods by V.N.Vedamurthy	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – bz23vr2)
27	-	-	-
30th Nov – 5thDec 2020	Revision	Numerical Methods by V.N.Vedamurthy	Google meet for Online Classes Google Class Room for Offline Classes

			(Class Code – bz23vr2)
7th Dec- 8th Dec 2020	Revision	Numerical Methods by V.N.Vedamurthy	Google meet for Online Classes Google Class Room for Offline Classes (Class Code – bz23vr2)

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

PG and Research Department of Mathematics

Work done for the Academic year (2020-2021)

SEMESTER - I

Class: I M.Sc. Mathematics

Course: Differential Equations

Course Code: PCMAD20

Staff In-charge: Dr. S. Yuvarani

12th Oct - 16th Oct 2020	I M.Sc. Maths	Existence of uniqueness of solutions – Lipchitz condition	Ordinary Differential Equations by S. G. Deo, V. Raghavendra, Rasmitkar and V. Lakshmikantham	https://meet.google.com/pfs-gxjg-xwo (14.10.2020) (10.15am -11.15am)
19th Oct - 23nd Oct 2020	I M.Sc. Maths	-	Ordinary Differential Equations by S. G. Deo, V. Raghavendra, Rasmitkar and V. Lakshmikantham	(22.10.2020) No class due to Certificate verification . Google Classroom (Class Code: uo4vzo4) (19.10.2020) (2.45 pm – 3.45 pm) PDF of study material posted in the class room
2nd Nov – 6th Nov 2020	I M.Sc. Maths	Some problems on Lipchitz condition- Gownwall's inequality	Ordinary Differential Equations by S. G. Deo, V. Raghavendra, Rasmitkar and V. Lakshmikantham	https://meet.google.com/pfs-gxjg-xwo (3.11.2020) (10.15am -11.15am) Google Classroom (Class Code: uo4vzo4) (6.11.2020) (2.45 pm – 3.45 pm) An assignment was given to the students.
9th – 13th Nov 2020	I M.Sc. Maths		Ordinary Differential Equations by S. G. Deo, V.	https://meet.google.com/pfs-gxjg-xwo (11.11.2020) (10.15am -11.15am)

			Raghavendra, Rasmitkar and V. Lakshmikantham	Google Classroom (Class Code: uo4vzo4) (16.11.2020) (2.45 pm – 3.45 pm) PDF of study material was posted in the Google classroom
16th – 18th Nov 2020	I M.Sc. Maths		Ordinary Differential Equations by S. G. Deo, V. Raghavendra, Rasmitkar and V. Lakshmikantham	.-
27th Nov -28th Nov 2020	I M.Sc. Maths		Ordinary Differential Equations by S. G. Deo, V. Raghavendra, Rasmitkar and V. Lakshmikantham	https://meet.google.com/pfs-gxjg-xwo (27.11.2020) (9.40am -10.30am) https://meet.google.com/pfs-gxjg-xwo (28.11.2020) (9.40am -10.30am)
30th Nov – 5th Dec 2020	I M.Sc. Maths		Ordinary Differential Equations by S. G. Deo, V. Raghavendra, Rasmitkar and V. Lakshmikantham	https://meet.google.com/pfs-gxjg-xwo (1.12.2020) (9.40am -10.30am)
7th Dec – 8th Dec 2020				https://meet.google.com/pfs-gxjg-xwo (7.12.2020) (2.20pm -3.15pm)

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

PG and Research Department of Mathematics
Work done for the Academic year (2020-2021)

SEMESTER - V

Class: III B.Sc. Mathematics
Course: Elective Practical: C
Course Code: UEMAB20
Staff In-charge: Dr. S. Yuvarani

Date	Portions Covered	Reference	Platform(LMS)
8^{th} - 11^{th} July 2020	-	-	-
13^{th} – 18^{th} July 2020	-	-	-
20^{th} – 25^{th} July 2020	-	-	-
27^{th} July – 1^{st} Aug 2020	-	-	-
3^{rd} – 8^{th} Aug 2020	-	-	-
10^{th} – 14^{th} Aug 2020	-	-	-
17^{th} -22^{nd} Aug 2020	-	-	-
24^{th} – 29^{th} Aug 2020	-	-	-
31^{st} Aug – 5^{th} Sep 2020	-	-	-
7^{th} -11^{th} Sep 2020	-	-	-
14^{th} - 19^{th} Sep 2020	-	-	-

21st – 26th Sep 2020	Program on Sum on n Natural numbers, Quadratic equation, Simple Interest.	Programming in ANSIC, E. Balagurusamy	Google Classroom (Class Code: b5whqcq)
28th Sep – 3rd Oct 2020	Program on Mean, Standard Deviation and Variance	Programming in ANSIC, E. Balagurusamy	Google Classroom (Class Code: b5whqcq)
5th – 10th Oct 2020	Program on Generating Prime Numbers, Largest of three numbers, sinx and cosx	Programming in ANSIC, E. Balagurusamy	Google Classroom (Class Code: b5whqcq)
12 – 17th Oct 2020	Program on Recursion and Matrix Manipulation	Programming in ANSIC, E. Balagurusamy	Google Classroom (Class Code: b5whqcq)
19th – 24th Oct 2020	Programs on sorting	Programming in ANSIC, E. Balagurusamy	Google Classroom (Class Code: b5whqcq)

26th – 31st Oct 2020	Programs on searching	Programming in ANSIC, E. Balagurusamy	Google Classroom (Class Code: b5whqcq)
2nd – 7th Nov 2020	Program on structures	Programming in ANSIC, E. Balagurusamy	Google Classroom (Class Code: b5whqcq)
9^{th} – 13^{th} Nov 2020	Revision	Programming in ANSIC, E. Balagurusamy	Google Classroom (Class Code: b5whqcq)
16^{th} – 18^{th} Nov 2020	Revision	Programming in ANSIC, E. Balagurusamy	Google Classroom (Class Code: b5whqcq)
27^{th} Nov 2020	Revision	Programming in ANSIC, E. Balagurusamy	Google Classroom (Class Code: b5whqcq)
30^{th} Nov – $5^{t\,h}$ Dec 2020	Revision	Programming in ANSIC, E. Balagurusamy	Google Classroom (Class Code: b5whqcq)
7^{th} – 8^{th} Dec 2020	Revision	Programming in ANSIC, E. Balagurusamy	Google Classroom (Class Code: b5whqcq)

LESSON PLAN FOR THE YEAR
2020 – 2021.
PAPERS HANDLED
EVEN SEMESTER.

II B.B.A : Operations Research-II
No. of Hours : 6

I M.Sc Maths : Mechanics
No. of Hours : 2.

I M.Sc Mathematics : Human Rights
No. of Hours : 2.

II M.Sc Mathematics : Project
No. of Hours : 1

III B.Sc Mathematics : C++ practical
No. of Hours : 2.

II B.Sc Mathematics : Mathematical Statistics-II
No. of Hours : 2.

II B.Sc Computer Science : Numerical Analysis -II
No. of Hours : 2.

Total No. of Hours : 17.
Staff Incharge : Dr. S. Yuvarani.

Month	Week	II B.B.A.	IM.Sc Mathematics Mechanics	I. M.Sc Mathematics Human Rights	II B.Sc Mathematics	II B.Sc Computer Science.
JANUARY.	1	Introduction – Processing n' Jobs through two Machines	Hamilton's Principle – Theorems on Hamilton's principle.	Human Rights - Meaning - origin and development	Introduction – one waya ANOVA classification.	Gauss Elimination Method
	2	Processing n Jobs through three machines.	Brachistochrone Problem - Geodesic Problem.	Features of Indian Constitution - Federalism.	Problems on one way Anova	Problems on Gauss Elimination Method.
	3	Processing two Jobs through 'm' machines	Geodesic problem.	Kinds of Human Rights - Elements of Human Rights	Problems on one way Anova	problems on Gauss Elimination Method
	4	Processing 'n' Jobs through 'm' machines.	Theorem's on Hamilton's principle.	Fundamental Rights - preamble - Directive principles of State Policy	Two way Anova classification.	Problems on Gauss Elimination Method

FEBRUARY	1	Construction – The Network – Numbering the events.	Multiplier Rule in Hamilton's principle.	Right to Constitutional Remedies – origin of universal declaration.	Problems on Two-way Anova Table.	Gauss Jordan Method
	2	Different time calculations – Representation in tabular form.	Hamilton's Equations.	Civil and political Rights – Economic social, cultural Rights.	Problems on Two-way Anova Table.	Gauss Jordan Method – Problems
	3	Total, Independent and freefloat – calculation of Critical Path.	Theorem's on Hamilton's Equations.	Effects and Influence of universal declaration.	problems on Two-way Anova. Table.	Problems on Gauss Jordan Method.
	4	Problems on Critical Path and project duration. – Basics steps in PERT.	Variational principles.	Anti Human Trafficking – National Policy for empowerment of Women.	Designs of Experiment.	problems on Gauss Jordan Method.
MARCH	1	I CA EXAMINATIONS				

Month	Week	II B.B.A	I.M.Sc Mathematics Mechanics	I.M.Sc Maths Human Rights	II. B.Sc Maths	II B.Sc Computer Science
MARCH.	2	Difference between CPM and PERT:- Calculation of Critical path.	Theorem's on Hamilton's Equations.	Distinction Between Indian Constitution and Universal declaration.	Basics principles of Experimental Design.	Gauss - Jacobi Method
	3	Problems on Critical Path and Project duration.	other variational principles.	The Sexual Haresment of women at work place.	Basic Designs of Experiment, CRD, RBD, L.S.D.	Problems on Jacobi Method
	4	Problems on PERT - Probability of Meeting the Scheduled dates.	Examples on Hamilton's Equations.	Economic empowerment of Women.	Latin Square Design.- Problems.	problems on Jacobi Method.
	1	Game Theory - Saddle point - Games without saddle point	Differential Forms and Generating Functions.	Social empowerment of women.	Analysis of Variance in Latin Square Design.	Problems on Gauss - Seidal Method

APRIL

2	Games without Saddlepoint (Mixed strategies) – Dominance property. Queuing Theory.	Special Transformations.	Rights of the girl child – Mass media	Problems on Latin Square Design.	Problems on Gauss-Seidal Method.
3		II	CA EXAMINATIONS		
4	Single channel queuing Theory – Different formulae – single channel system.	Lagrange Brackets.	Operational Strategies.	Revision.	Revision

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

PG and Research Department of Mathematics

Lesson Plan for the Academic year (2020-2021)

SEMESTER - III

Class: II M.Sc. Mathematics

Course: Difference Equation

Course Code: PCMAL19

Staff In-charge: Mrs. Priya P

Week	Portions to be Covered	Reference	Platform (LMS)
1 8^{th}- 11^{th} July 2020	-	-	
2 13^{th} – 18^{th} July2020	**Unit I** Difference calculus introduction - Definition of Difference equation.	Difference Equations by Ronald E Mickens.	Google Classroom (Class Code: 6d32jpj)
3 20^{th} – 25^{th} July 2020	Derivation of Difference equations- Problems.	Difference Equations by Ronald E Mickens.	Google Classroom (Class Code: 6d32jpj)
4 27^{th} July – 1^{st} Aug 2020	Existence and Uniqueness theorem - Operators Δ and E.	Difference Equations by Ronald E Mickens.	Google Classroom (Class Code: 6d32jpj)
5 3^{rd} – 8^{th} Aug 2020	Elementary difference operators - Factorial polynomials.	Difference Equations by Ronald E Mickens.	Google Classroom (Class Code: 6d32jpj)
6 10^{th} – 14^{th} Aug	**Unit II** First Order Difference Equations – Introduction- Basic Definition.	Difference Equations by Ronald E Mickens.	Google Classroom (Class Code: 6d32jpj)

2020			
7 17th -22nd Aug 2020	General linear equation – $y_{k+1} - y_k = (n+1)k^n$	Difference Equations by Ronald E Mickens.	Google Classroom (Class Code: 6d32jp
8 24th – 29th Aug 2020	$y_{k+1} = R_k y_k$ - Continued fractions $yk + 1 - Kyk = Pk$	Difference Equations by Ronald E Mickens.	Google Classroom (Class Code: 6d32jp
9 31st Aug – 5th Sep 2020	**Unit III** Linear Difference equations, Introduction, Definition, Various types of problems	Difference Equations by Ronald E Mickens.	Google Meet for onli classes Google Classroom for o classes (Class Code: 6d32jp
10 7th -11th Sep 2020	Linearly independent functions - Fundamental theorems for Homogeneous equations **CA 1**	Difference Equations by Ronald E Mickens.	Google Meet for onli classes Google Classroom for o classes (Class Code: 6d32jp
11 14th- 19th Sep 2020	Inhomogeneous equations - Second order equations - Stum-Liouville difference equations	Difference Equations by Ronald E Mickens.	Google Meet for onli classes Google Classroom for o classes (Class Code: 6d32jp
12 21st – 25th Sep 2020	**Unit IV** Homogeneous and non homogenous Difference equation	Difference Equations by Ronald E Mickens.	Google Meet for onli classes Google Classroom for o classes (Class Code: 6d32jp
13 28th Sep -3rd Oct 2020	Construction of a difference equation having specified solutions -	Difference Equations by Ronald E Mickens.	Google Meet for onli classes Google Classroom for o classes (Class Code: 6d32jp
14 5th -9th Oct 2020	Solutions of homogenous Difference equations - Relationship between linear difference and differential equations	Difference Equations by Ronald E Mickens.	Google Meet for onli classes Google Classroom for o classes (Class Code: 6d32jp
15 12th -16th Oct 2020	**Unit V** Stability theory - A norm of matrix- Definitions - Notations of Stability **CA 2**	Difference Equations by Saber Elyadi	Google Meet for onli classes Google Classroom for o classes (Class Code: 6d32jp

16 19th - 23rd Oct 2020	Stability of Linear Systems - Phase space Analysis	Difference Equations by Saber Elyadi	Google Meet for online classes Google Classroom for offline classes (Class Code: 6d32jpj)
17 26th – 30th Oct 2020	Problems on Phase space Analysis	Difference Equations by Saber Elyadi	Google Meet for online classes Google Classroom for offline classes (Class Code: 6d32jpj)
18 2nd -6th Nov 2020	Part II : Phase space Analysis - Global Stability of Nonlinear equations	Difference Equations by Saber Elyadi	Google Meet for online classes Google Classroom for offline classes (Class Code: 6d32jpj)
19 9th – 13th Nov 2020	Revision	Difference Equations by Saber Elyadi	Google Meet for online classes Google Classroom for offline classes (Class Code: 6d32jpj)
20 16th-18th Nov 2020	Revision	Difference Equations by Saber Elyadi	Google Meet for online classes Google Classroom for offline classes (Class Code: 6d32jpj)
21 25th -27th Nov 2020	Revision	Difference Equations by Saber Elyadi	Google Meet for online classes Google Classroom for offline classes (Class Code: 6d32jpj)
22 30th Nov – 4th Dec 2020	Revision	Difference Equations by Saber Elyadi	Google Meet for online classes Google Classroom for offline classes (Class Code: 6d32jpj)
23 7th -8th Dec 2020	Revision	Difference Equations by Saber Elyadi	Google Meet for online classes Google Classroom for offline classes (Class Code: 6d32jpj)

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Lesson Plan for the Academic year (2020-2021)

SEMESTER - III

Class: I M.Sc. Mathematics

Course: Elective I A - Differential Geometry

Course Code: PEMAA20

Staff In-charge: Mrs. Priya P.

Week	Portions to be Covered	Reference	Platform (LMS)
1 12th -16th Oct 2020	**Unit III:** The First Fundamental Form and Local Intrinsic Properties of a surface – Introduction	Differential Geometry By Somasundaram	Google Meet for online classes (http://meet.google.com/xpy-ocnh-vte) Google Classroom for offline classes (Class Code: ljixjqk)
2 19th - 23rd Oct 2020	Definition of asurface- Nature on a point on a surface	Differential Geometry By Somasundaram	Google Meet for online classes (http://meet.google.com/xpy-ocnh-vte) Google Classroom for offline classes (Class Code: ljixjqk)
3 26th – 30th Oct 2020	Representation of a surface – Curves on Surface.	Differential Geometry By Somasundaram	Google Meet for online classes (http://meet.google.com/xpy-ocnh-vte) Google Classroom for offline classes (Class Code: ljixjqk)
4 2nd -6th Nov 2020	Problems and examples on curves on Surfaces- Tangent plane and surface normal	Differential Geometry By Somasundaram	Google Meet for online classes (http://meet.google.com/xpy-ocnh-vte) Google Classroom for offline classes

			(Class Code: ljix
5 9th -13th Nov 2020	The general surfaces of revolution – Helicoids - Metric on a surface- The first fundamental form, Direction coefficients on a surface- Excises Problems solved **FA 2: Written Test**	Differential Geometry By Somasundaram	Google Meet for o classes (http://meet.google.co ocnh-vte) Google Classroom for classes (Class Code: ljixjq
6 16th – 18th Nov 2020	**Unit IV :** Introduction - Families of curves - Orthogonal trajectories- Double family of curves - Isometric correspondence – Intrinsic Properties	Differential Geometry By Somasundaram	Google Meet for onl classes (http://meet.google.com ocnh-vte) Google Classroom for o classes (Class Code: ljixjqk)
7 23rd - 27th Nov 2020	Geodesics on a surface – definition and examples- Geodesics and their differential equation – canonical on surfaces of revolution **CA 1 Written Exam**	Differential Geometry By Somasundaram	Google Meet for online classes (http://meet.google.com/x ocnh-vte) Google Classroom for off classes (Class Code: ljixjqk)
8 30th Nov- 4th Dec 2020	Normal property of geodesics and solved examples and problems	Differential Geometry By Somasundaram	Google Meet for online classes (http://meet.google.com/x ocnh-vte) Google Classroom for off classes (Class Code: ljixjqk)
9 7th – 11th Dec 2020	Differential equations of geodesics using normal property **FA 4: Written Exam**	Differential Geometry By Somasundaram	Google Meet for onlin classes (http://meet.google.com/ ocnh-vte) Google Classroom for o classes (Class Code: ljixjqk
10 14th – 18th Dec	**Unit V: Geodesic on a surface** – Gussain curvature	Differential Geometry By Somasundaram	Google Meet for onli classes (http://meet.google.com

2020			ocnh-vte) Google Classroom for offline classes (Class Code: ljixjqk)
11 21st -23rd Dec 2020	Surfaces of constant curvature – Conformal mapping	Differential Geometry By Somasundaram	Google Meet for online classes (http://meet.google.com/xpy-ocnh-vte) Google Classroom for offline classes (Class Code: ljixjqk)
12 24th and 25th Dec 2020	**Christmas Holidays**	**Christmas Holidays**	**Christmas Holidays**
13 27th –31st Dec 2021	Geodesic Mapping- Examples and solved Problems **CA 2: Written Exam**	Differential Geometry By Somasundaram	Google Meet for online classes (http://meet.google.com/xpy-ocnh-vte) Google Classroom for offline classes (Class Code: ljixjqk)

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Work done for the Academic year (2020-2021)

SEMESTER - III

Class: II B.Sc. Mathematics

Course: Solid Geometry

Course Code: UCMAE15

Staff In-charge: Mrs. Priya P.

Date	Class	Portions Covered	Reference	Methods of Teaching
8th- 11th July 2020	-	-	-	-
13th – 18th July2020	II B.Sc. Maths	Plane introduction - General equation of a plane.	Vector Analysis , Analytical Solid Geometry and Sequence and Series by P. R Vittal	**Google Classroom** (Class Code: dz2g4kt) Videos and PPTs are posted in the Classroom
20th – 25th July 2020	II B.Sc. Maths	Equation of a plane in the normal form - Plane through three given points	Vector Analysis , Analytical Solid Geometry and Sequence and Series by P. R Vittal	**Google Classroom** (Class Code: dz2g4kt) Videos and PPTs are posted in the Classroom
27th July – 1st Aug 2020	II B.Sc. Maths	Condition for the homogenous equation of the second degree to represent a pair of planes.	Vector Analysis , Analytical Solid Geometry and Sequence and Series by P. R Vittal	**Google Classroom** (Class Code: dz2g4kt) Videos and PPTs are posted in the Classroom
3rd – 8th Aug 2020	II B.Sc. Maths	Straight Line – Introduction - Symmetrical form of a straight line.	Vector Analysis , Analytical Solid Geometry and Sequence and Series by P. R Vittal	**Google Classroom** (Class Code: dz2g4kt) Videos and PPTs are posted in the Classroom

10^{th} – 14^{th} Aug 2020	II B.Sc. Maths	Image of a point with respect to a plane – Image of a line with respect to a plane	Vector Analysis , Analytical Solid Geometry and Sequence and Series by P. R Vittal	**Google Classroom** (Class Code: dz2g4kt) Videos and PPTs are poste the Classroom
17^{th} -22^{nd} Aug 2020	II B.Sc. Maths	Length and equation of the shortest distance between two skew lines.	Vector Analysis , Analytical Solid Geometry and Sequence and Series by P. R Vittal	**Google Classroom** (Class Code: dz2g4kt) Videos and PPTs are poste the Classroom
24^{th} – 29^{th} Aug 2020	II B.Sc. Maths	Sphere – Introduction - Length of the tangent	Vector Analysis , Analytical Solid Geometry and Sequence and Series by P. R Vittal	**Google Classroom** (Class Code: dz2g4kt) Videos and PPTs are poste the Classroom
31^{st} Aug – 5^{th} Sep 2020	II B.Sc. Maths	Tangent plane – Section of a sphere by a plane	Vector Analysis , Analytical Solid Geometry and Sequence and Series by P. R Vittal	**FA Test I- Written exam** **Google meet** https://meet.google.com/mj udft-osw (31.08.2020) (11.30 am -12.30pm)
				FA Test II – Google Form **Google Classroom** (Class Code: dz2g4kt) (01.09.2020) (2.45 pm -3.45 pm)
				Google meet https://meet.google.com/mj udft-osw (02.09.2020) (10.15 am -11.15 am)
				Google Classroom (Class Code: dz2g4kt) Students were asked to do sol exercise Problems (03.09.2020) (2.45 pm -3.45 pm)

2020		by P. R Vittal	(Class Code: dz2g4kt)
16 9th - 24th Oct 2020	**Unit V** Cylinder - Equation of a cylinder with a given generator and a given guiding curve	Vector Analysis , Analytical Solid Geometry and Sequence and Series by P. R Vittal	Google Meet for online classes Google Classroom for offline classes (Class Code: dz2g4kt)
17 26th – 31st Oct 2020	Right circular cylinder – Enveloping cylinder	Vector Analysis , Analytical Solid Geometry and Sequence and Series by P. R Vittal	Google Meet for online classes Google Classroom for offline classes (Class Code: dz2g4kt)
18 2nd -7th Nov 2020	Enveloping cylinder as a limiting form of an enveloping cone.	Vector Analysis , Analytical Solid Geometry and Sequence and Series by P. R Vittal	Google Meet for online classes Google Classroom for offline classes (Class Code: dz2g4kt)
19 9th – 13th Nov 2020	Revision	Vector Analysis , Analytical Solid Geometry and Sequence and Series by P. R Vitta	Google Meet for online classes Google Classroom for offline classes (Class Code: dz2g4kt)
20 16th-18th Nov 2020	Revision	Vector Analysis , Analytical Solid Geometry and Sequence and Series by P. R Vitta	Google Meet for online classes Google Classroom for offline classes (Class Code: dz2g4kt)
21 25th -27th Nov 2020	Revision	Vector Analysis , Analytical Solid Geometry and Sequence and Series by P. R Vitta	Google Meet for online classes Google Classroom for offline classes (Class Code: dz2g4kt)
22 30th Nov – 4th Dec 2020	Revision	Vector Analysis , Analytical Solid Geometry and Sequence and Series by P. R Vitta	Google Meet for online classes Google Classroom for offline classes (Class Code: dz2g4kt)
23 7th -8th Dec 2020	Revision	Vector Analysis , Analytical Solid Geometry and Sequence and Series by P. R Vitta	Google Meet for online classes Google Classroom for offline classes (Class Code: dz2g4kt)

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Lesson Plan for the Academic year (2020-2021)

SEMESTER - III

Class: III B.Sc. Mathematics

Course: SKILL BASED ELECTIVE V: MATHEMATICS FOR COMPETITIVE EXAMINATIONS – I

Course Code: USMAD15

Staff In-charge: Mrs. Priya P

Week	Portions to be Covered	Reference	Platform (LMS)
1 8th- 11th July 2020	-	-	-
2 13th – 18th July2020	**Unit II** Percentage	Quantitative Aptitude by Dr. R.S. Aggarwal	Google Classroom (Class Code: 5g37jas)
3 20th – 25th July 2020	Profit and Loss	Quantitative Aptitude by Dr. R.S. Aggarwal	Google Classroom (Class Code: 5g37jas)
4 27th July – 1st Aug 2020	Simple Interest	Quantitative Aptitude by Dr. R.S. Aggarwal	Google Classroom (Class Code: 5g37jas)
5 3rd – 8th Aug 2020	Compound Interest	Quantitative Aptitude by Dr. R.S. Aggarwal	Google Classroom (Class Code: 5g37jas)
6 10th – 14th Aug	Time and work	Quantitative Aptitude by Dr. R.S. Aggarwal	Google Classroom (Class Code: 5g37jas)

2020			
7 17th -22nd Aug 2020	Speed and Distance – I	Quantitative Aptitude by Dr. R.S. Aggarwal	Google Classroom (Class Code: 5g37ja
8 24th – 29th Aug 2020	Speed and Distance - II	Quantitative Aptitude by Dr. R.S. Aggarwal	Google Classroom (Class Code: 5g37ja
9 31st Aug – 5th Sep 2020	Problems on Time and wages	Quantitative Aptitude by Dr. R.S. Aggarwal	Google Meet for online classes Google Classroom for online classes (Class Code: 5g37ja
10 7th -11th Sep 2020	**Unit III** Heights and Distance **CA 1**	Quantitative Aptitude by Dr. R.S. Aggarwal	Google Meet for online classes Google Classroom for online classes (Class Code: 5g37ja
11 14th- 19th Sep 2020	**Unit IV** Permutations	Quantitative Aptitude by Dr. R.S. Aggarwal	Google Meet for online classes Google Classroom for online classes (Class Code: 5g37ja
12 21st – 26th Sep 2020	Combinations	Quantitative Aptitude by Dr. R.S. Aggarwal	Google Meet for online classes Google Classroom for online classes (Class Code: 5g37ja
13 28th Sep -3rd Oct 2020	Probability	Quantitative Aptitude by Dr. R.S. Aggarwal	Google Meet for online classes Google Classroom for online classes (Class Code: 5g37ja
14 5th -10th Oct 2020	Problems on probability	Quantitative Aptitude by Dr. R.S. Aggarwal	Google Meet for online classes Google Classroom for online classes (Class Code: 5g37ja
15 12th -17th Oct 2020	**Unit V** Verbal Reasoning – Alphabet Test **CA 2**	A Modern Approach to Verbal and Non-Verbal Reasoning by Dr. R.S. Aggarwal	Google Meet for online classes Google Classroom for online classes (Class Code: 5g37ja

16 19th - 24th Oct 2020	Verbal Reasoning – Direction sense test	A Modern Approach to Verbal and Non-Verbal Reasoning by Dr. R.S. Aggarwal	Google Meet for online classes Google Classroom for offline classes (Class Code: 5g37jas)
17 26th – 31st Oct 2020	Verbal Reasoning – Classification	A Modern Approach to Verbal and Non-Verbal Reasoning by Dr. R.S. Aggarwal	Google Meet for online classes Google Classroom for offline classes (Class Code: 5g37jas)
18 2nd -7th Nov 2020	Problems on classification	A Modern Approach to Verbal and Non-Verbal Reasoning by Dr. R.S. Aggarwal	Google Meet for online classes Google Classroom for offline classes (Class Code: 5g37jas)
19 9th – 13th Nov 2020	Revision	A Modern Approach to Verbal and Non-Verbal Reasoning by Dr. R.S. Aggarwal	Google Meet for online classes Google Classroom for offline classes (Class Code: 5g37jas)
20 16th-18th Nov 2020	Revision	A Modern Approach to Verbal and Non-Verbal Reasoning by Dr. R.S. Aggarwal	Google Meet for online classes Google Classroom for offline classes (Class Code: 5g37jas)
21 25th -27th Nov 2020	Revision	A Modern Approach to Verbal and Non-Verbal Reasoning by Dr. R.S. Aggarwal	Google Meet for online classes Google Classroom for offline classes (Class Code: 5g37jas)
22 30th Nov – 4th Dec 2020	Revision	A Modern Approach to Verbal and Non-Verbal Reasoning by Dr. R.S. Aggarwal	Google Meet for online classes Google Classroom for offline classes (Class Code: 5g37jas)
23 7th -8th Dec 2020	Revision	A Modern Approach to Verbal and Non-Verbal Reasoning by Dr. R.S. Aggarwal	Google Meet for online classes Google Classroom for offline classes (Class Code: 5g37jas)

LESSON PLAN FOR THE ACADAMIC YEAR

2020- 2021

EVEN SEMESTER

1. II M.Sc Mathematics - Numerical Analysis - 6
2. I M.Sc Mathematics - Partial differential equation and Integral Equations - 1
3. III B.Sc Mathematics - SBE- Mathematics for competitive Examinations -II - 2
4. II B.Sc Mathematics - Numerical Analysis - 4
5. II B.Sc Mathematics - EVS - 2
6. II M.Sc Mathematics - Project - 1

16 Hrs

Total No. of Hours : 16 Hrs

Staff Incharge : Ms. P. Priya

Months	Weeks	II M.Sc Mathematics	II B.Sc Mathematics	II B.Sc Mathematics - EVS	III B.Sc Mathematics
JANUARY	1	UNIT I: Solution to Numerical, Algebraic and Transcendal Equations	UNIT I: Finite difference Express any value of y_n and backward difference of y_n - Difference of a Polynomial	UNIT I: Definition of Enviornment - Sope and importance	UNIT: Verbal Reasoning Introduction
	2	Introduction - Bisection method, Method of Successive approximation	Factorial Polynomial finite integration - Summation of a polynomial - Summation of series	components and segments of Environments	Number. Ranking
	3	False Position, Newton's Iteration method - Convergence of Newton	Monmorts theorem Problems of Factorial Polynomial	Multidisciplinary nature of Environmental studies.	Time sequence Test
	4	Horner's method - Descartes rule of sign Graeffe's root squaring method.	UNIT II: Interpolation and Central difference interpolation formula.	Natural Resources: water, wind, Energy, Forest and mineral resource	Inserting the missing character
FEBRUARY	1	UNIT II: Solving set of equations - Introduction definitions	Gregory Newtons forward Interpolation formula - Backward Interpolation formula.	UNIT II: Ecosystem - Structure and function of ecosystem food chain and food web	UNIT II: Series completion
	2	Types of direct and Indirect method - Elimination method	Equidistant terms with one or more missing values - problems	Ecological pyramids - Types of Ecosystems - Lake ecosystems	coding and decoding
		Gauss Joardan method	Central difference and difference Table	Pond Ecosystem, Forest Ecosystem, Grassland	Relationships

FEBRUARY	2	Types of direct and Indirect method - Elimination method	Equidistant terms with one or more missing values - problems	Ecological pyramids - Types of Ecosystems - Lake ecosystems	coding and decoding
	3	Grauss Joardan method Crouh method Inverse method	Central difference and Central difference Table Grauss forward interpolation formula.	Pond Ecosystem, Forest Ecosystem, Grassland Ecosystems - Desert Ecosystem	Relationships
	4	Iterative method - Grauss Jacobi method - Grauss seidal method.	Grauss Backward interpolation formula - Problems	Ocean Ecosystem - Energy Flow Ecosystem - Ecological Succession	Logical Venn diagram
MARCH	1	I CA Examinations	I CA Examination	I CA Examinations	I CA Examination
	2	UNIT III - Interpolation and curve fitting Lagrangian Polynomials Divided differences Everly spaced data.	UNIT II: Stirling's formula Bessels formula - Divided difference - Laplace - Everet formula - Relation Between Bessels and Everet formula	UNIT II - Biodiversity General terms related to biodiversity - Types of Biodiversity - India as mega biodiversity - Threats to Biodiversity	UNIT III: statements and arguments
	3	Polynomial Approximation of Surfaces - Getting Derivatives and Integral Numerically - UNIT IV - Introduction	Properties of divided difference - Relation between divided differences and forward differences - Theorem Newton's divided difference	Conservation of Biodiversity values of Biodiversity UNIT II: Environmental Pollution: Air Pollution Water pollution - soil pollution	statements and conclusion Arithmetic Reasoning
	4	Taylors series method Runge kutta method Milne's method.	UNIT IV: Lagranges Interpolation Different form of Lagrange's Interpolation - Derivative of forward and backward difference	causes effects and control - Rainwater harvesting - watershed management - solid waste management	UNIT IV: series, analogy

Month	Week	II M.Sc Mathematics	II B.Sc Mathematics	II B.Sc Mathematics - EVS	III B.Sc Mathematics
	1	Adam's Moulton method UNIT V: Introduction Difference quotients	Derivative - Stirling formula To find maxima and minima of the function given tabular values	UNIT V: Human Polution and Environment - Environment Protection Act 1986.	Analytical Reasoning
	2	Geometrical Representation of partial difference quotients - Classification of partial diff. equation.	UNIT V: A general quadrature formula for Equidistant - Trapezoidal rule - Romberge method	Environment protection agencies Air act 1981, water act 1976 wild life protection act 1972	UNIT V Tabulation Bar graph
	3	II CA Examinations	II CA Examinations	II CA Examinations	II CA Examination
APRIL	4	Elliptic equation - Poission Equations - Hyperbolic equations	Simpson's one-Third rule - Simpson's three eight rule - Weddle's rule.	General environmental issues Global warming - Climate change - ozone layer depletion Acid rain	Pie chart, line graph.
	1	Revision & Test	Revision & Test	Revision & Test	Revision & Test
MAY			STUDY HOLIDAYS BEGINS EVEN SEMESTER EXAMINATIONS		

Sr. Jeya Sudha R
10/05/2,

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

PG and Research Department of Mathematics

Lesson plan for the Academic year (2020-2021)

SEMESTER - I

Class I B.BA

Course: Business Mathematics and statistics-I

Course Code: UCBAB20

Staff In-charge: Mrs.P.Roselyn Besi

Week	Portions to be covered	Reference	Platform (LMS)
1 9th – 12th Sep 2020	**Unit I: Matrices .** Definition, Types of Matrices . Matrix operations.	P. A. Navnitham - Business Mathematics and Statistics - Jai Publishers - Trichy 2007.	Google meet for online and Google Class Room for Offline Class Code:uzh7dhh
2 14th – 19th Sep-2020	Determinant of a matrix. Solution of system of linear simultaneous equations using Cramer's rule (finding x, y, z) .	P. A. Navnitham - Business Mathematics and Statistics - Jai Publishers - Trichy 2007	Google meet for online and Google Class Room for Offline Class Code:uzh7dhh
3 21st-26th Sep 2020	Singular and non-singular matrices. Inverse of a matrix by co-factor method.	P. A. Navnitham - Business Mathematics and Statistics - Jai Publishers - Trichy 2007	Google meet for online and Google Class Room for Offline Class Code:uzh7dhh
4 28th Sep – 3rd Oct 2020	Rank of a Matrix. UNIT 2 Differentiation- formulae	P. A. Navnitham - Business Mathematics and	Google meet for online and Google Class Room for

		Statistics - Jai Publishers - Trichy 2007	Offline Class Code:uzh7dhh
5 5th – 9th Oct 2020	Derivatives of standard functions x^n, e^x, log x, constant (without proof) Rules of differentiation (Addition, difference, product, quotient)	P. A. Navnitham - Business Mathematics and Statistics - Jai Publishers - Trichy 2007	Google meet for online and Google Class Room for Offline Class Code:uzh7dhh
			Google meet for online and Google Class Room for Offline Class Code:uzh7dhh
6 12th – 17th Oct 2020	Rules of differentiation (product, quotient) Chain rule, Successive differentiation (up to second derivative)	P. A. Navnitham - Business Mathematics and Statistics - Jai Publishers - Trichy 2007	Google meet for online and Google Class Room for Offline Class Code:uzh7dhh
7 19th -24th Oct 2020	Uses: Marginal Concepts, Elasticity of demand, Increasing and decreasing functions . Maxima and minima, break - even point.	P. A. Navnitham - Business Mathematics and Statistics - Jai Publishers - Trichy 2007	Google meet for online and Google Class Room for Offline Class Code:uzh7dhh
8 26th -31st Oct 2020	Dusherra Holiday and Revision for CA I	-	Google meet for online and Google Class Room for Offline

			Class Code:uzh7dhh
9 2nd – 7th Nov 2020	**Unit III: Classification and Graphical Representation** Introduction, meaning of classification, chief characteristics of classification, objects of classification rules of classification.	R. S. N. Pillai and Bagavathi - Statistics, 17th Edition, S. Chand and Company - New Delhi, 1984.	Google meet for online and Google Class Room for Offline Class Code:uzh7dhh
10 9th –13th Nov 2020	Frequency distribution, individual observations. Discrete frequency distributions continuous frequency distribution . Cumulative frequency distribution, graph of frequency distribution .	R. S. N. Pillai and Bagavathi - Statistics, 17th Edition, S. Chand and Company - New Delhi, 1984.	Google meet for online and Google Class Room for Offline Class Code:uzh7dhh
11 16th –21st Nov 2020	Histogram.Frequency Polygon, Frequency curve. **Unit IV: Measures of Central Tendency.** Arithmetic mean, Median.,Mode.	R. S. N. Pillai and Bagavathi - Statistics, 17th Edition, S. Chand and Company - New Delhi, 1984.	Google meet for online and Google Class Room for Offline Class Code:uzh7dhh
12 23rd -27th Nov 2020	Empirical formulae, Combined and Weighted Arithmetic Mean. Geometric mean and Harmonic Mean. **Unit V: Measures of Dispersion and Skewness** Range ,Quartile deviation.	R. S. N. Pillai and Bagavathi - Statistics, 17th Edition, S. Chand and Company - New Delhi, 1984.	Google meet for online and Google Class Room for Offline Class Code:uzh7dhh

13 30th Nov – 5th Dec 2020	Mean Deviation Standard Deviation CA 2	R. S. N. Pillai and Bagavathi - Statistics, 17th Edition, S. Chand and Company - New Delhi, 1984.	Google meet for online and Google Class Room for Offline Class Code:uzh7dhh
14 7th – 11th Dec 2020	Karl Pearson's coefficient of skewness. Bowley's coefficient of skewness.	R. S. N. Pillai and Bagavathi - Statistics, 17th Edition, S. Chand and Company - New Delhi, 1984.	Google meet for online and Google Class Room for Offline Class Code:uzh7dhh
15 14th – 19th Dec 2020	REVISION	-	Google meet for online and Google Class Room for Offline Class Code:uzh7dhh

Lesson plan for the Academic year (2020-2021)

SEMESTER - I

Class: I.B.Sc Computer Science

Course: Allied Mathematics-I

Course Code: UAMAA20

Staff In-charge: Mrs.P.Roselyn Besi

Week	Portions to be covered	Reference	Platform
1 9th -12th Sep 2020	**Unit-1 Matrices** Introduction to matrices , types with examples	Allied Mathematics by P.R.Vittal	Google meet for online. and Google Classroom (Class Code:d6tvlf75) Videos and PPTs, exercises are posted in the Classroom

2 14th -19th Sep 2020	Cofactor, minor , adjoint & determinant	Allied Mathematics by P.R.Vittal	Google meet for online. and Google Classroom (Class Code:d6tvlf75) Videos and PPTs, exercises are posted in the Classroom
3 21st -26th Sep 2020	Verification of CH theorem and finding inverse	Allied Mathematics by P.R.Vittal	Google meet for online. and Google Classroom (Class Code:d6tvlf75) Videos and PPTs, exercises are posted in the Classroom
4 28th -3rd Oct 2020	Diagonalisation of a matrix	Allied Mathematics by P.R.Vittal	Google meet for online. and Google Classroom (Class Code:d6tvlf75) Videos and PPTs, exercises areposted in the Classroom
5 5th -9th Oct 2020	**Unit-2 Theory of equations** Polynomial equations, irrational and complex roots	Allied Mathematics by P.R.Vittal	Google meet for online. and Google Classroom (Class Code:d6tvlf75) Videos and PPTs, exercises are posted in the Classroom
6 12th-17th Oct 2020	Reciprocal equations, Descarte's rule of signs	Allied Mathematics by P.R.Vittal	Google meet for online. and Google Classroom (Class Code:d6tvlf75) Videos and PPTs, exercises are posted in the Classroom
7 19th – 24th Oct 2020	Newton's method and Horner's method of approximation of roots	Allied Mathematics by P.R.Vittal	Google meet for online. and Google Classroom (Class Code:d6tvlf75) Videos and PPTs, exercises are posted in the Classroom
8 26th -31st Oct 2020	Dusherra Holiday and Revision for CA I	Allied Mathematics by P.R.Vittal	Google meet for online. and Google Classroom (Class Code:d6tvlf75) Videos and PPTs, exercises are posted in the Classroom
9 2nd -7th Nov 2020	**Unit-3 Trigonometry** Expansion of Sinn θ, Cosnθ	Allied Mathematics by	Google meet for online. and Google Classroom

		P.R.Vittal	(Class Code:d6tvlf75) Videos and PPTs, exercises are posted in the Classroom
10 9th -13th Nov 2020	Expansion of Sinθ, cosθ & tanθ	Allied Mathematics by P.R.Vittal	Google meet for online. and Google Classroom (Class Code:d6tvlf75) Videos and PPTs, exercises are posted in the Classroom
11 16th -21st Nov 2020	Logarithm of a complex number	Allied Mathematics by P.R.Vittal	Google meet for online. and Google Classroom (Class Code:d6tvlf75) Videos and PPTs, exercises are posted in the Classroom
12 23rd -28th Nov 2020	**Unit-4 Differential calculus** Differentiation, radius of curvature	Allied Mathematics by P.R.Vittal	Google meet for online. and Google Classroom (Class Code:d6tvlf75) Videos and PPTs, exercises are posted in the Classroom
13 30th -5th Dec 2020	R.O.C –polar coordianates, P-r equations, Evolutes and involutes	Allied Mathematics by P.R.Vittal	Google meet for online. and Google Classroom (Class Code:d6tvlf75) Videos and PPTs, exercises are posted in the Classroom
14 7th -11th Dec 2020	**Unit-5 Integral calculus** Integration by parts – Bernoulli's formula,	Allied Mathematics by P.R.Vittal	Google meet for online. and Google Classroom (Class Code:d6tvlf75) Videos and PPTs, exercises are posted in the Classroom
15 14th -19th Dec 2020	Reduction formula - Revision	Allied Mathematics by P.R.Vittal	Google meet for online. and Google Classroom (Class Code:d6tvlf75) Videos and PPTs, exercises are posted in the Classroom

Lesson plan for the Academic year (2020-2021)

SEMESTER - V

Class: III.B.Sc., Mathematics

Course: Real Analysis-I

Course Code:UCMAJ20

Staff In-charge: Mrs.P.Roselyn Besi

Week	Portions to be covered	Reference	Platform
1 21st -26th Sep 2020	**Unit-5** Continuous functions at a point- theorems	Methods of Real Analysis by Richard R.Goldsberg	Google meet online & Google Classroom (Class Code:x2y77so) Videos and PPTs, exercises are posted in the Classroom
2 28th -3rd Oct 2020	Reformulation with simple problems	Methods of Real Analysis by Richard R.Goldsberg	Google meet online & Google Classroom (Class Code:x2y77so) Videos and PPTs, exercises are posted in the Classroom
3 5th -9th Oct 2020	Functions continuous on metric spaces	Methods of Real Analysis by Richard R.Goldsberg	Google meet online link : erejwirvzg Google Classroom (Class Code:x2y77so) Videos and PPTs, exercises are posted in the Classroom
4 12th -17th Oct 2020	**CA-2** Theorems on continuity of metric spaces - REVISION	Methods of Real Analysis by Richard R.Goldsberg	Google meet online link : erejwirvzg Google Classroom (Class Code:x2y77so) Videos and PPTs, exercises are posted in the Classroom
5 19th -23rd Oct 2020	Revision on continuous function theorems	Methods of Real Analysis by Richard R.Goldsberg	Google meet online link : erejwirvzg Google Classroom (Class Code:x2y77so) Videos and PPTs, exercises are posted in the Classroom

Class: I.M.Sc MATHEMATICS

Course: Real Analysis-I

Course Code:PCMAB20

Staff In-charge: Mrs.P.Roselyn Besi

Week	Portions to be covered	Reference	Platform
1 12th-17th Oct 2020	**UNIT-1:Euclidean space R^n** Euclidean space R^n , Open balls, closed sets, adherent and accumulation points	Mathematical Analysis by Tom M Apostol	Online meet link: **mgurqbwrge** Google Classroom (Class Code:nilabin) Videos and PPTs, exercises are posted in the Classroom
2 19th – 24th Oct 2020	Bolzano Weirstrass theorem, Cantor intersection theorem.	Mathematical Analysis by Tom M Apostol	Online meet link: **mgurqbwrge** Google Classroom (Class Code:nilabin) Videos and PPTs, exercises are posted in the Classroom
3 26th -31st Oct 2020	Dusshera holidays & Lindelof covering theorem.	Mathematical Analysis by Tom M Apostol	Online meet link: **mgurqbwrge** Google Classroom (Class Code:nilabin) Videos and PPTs, exercises are posted in the Classroom
4 2nd -6th Nov 2020	Heine Borel theorem, Compactness and metric spaces.	Mathematical Analysis by Tom M Apostol	Online meet link: **mgurqbwrge** Google Classroom (Class Code:nilabin) Videos and PPTs, exercises are posted in the Classroom
5 9th -13th Nov 2020	Point set topology in metric spaces, compact subsets of metric spaces and boundary of a set.	Mathematical	Online meet link: **mgurqbwrge**

		Analysis by Tom M Apostol	Google Classroom (Class Code:nilabin) Videos and PPTs, exercises are posted in the Classroom
6 16^{th} -21^{st} Nov 2020	**UNIT-2:Functions of bounded variation and rectifiable curve** Properties of functions, functions of bounded variation & total variation Additive property of total variation,total variation on [a,x], Revision for CA 1	Mathematical Analysis by Tom M Apostol	Online meet link: **mgurqbwrge** Google Classroom (Class Code:nilabin) Videos and PPTs, exercises are posted in the Classroom
7 23^{rd} -28^{th} Nov 2020	Functions of bounded variation as the difference of increasing functions.Continuous function of bounded variation. Curves and paths,rectifiable paths and arc length with its properties.	Mathematical Analysis by Tom M Apostol	Online meet link: **mgurqbwrge** Google Classroom (Class Code:nilabin) Videos and PPTs, exercises are posted in the Classroom
8 30^{th} Nov - 5^{th} Dec 2020	Equivalence of paths, change of parameter. **UNIT-5: Lebesgue Integral** Integral of step function. Monotonic sequences of step function	Mathematical Analysis by Tom M Apostol	Online meet link: **mgurqbwrge** Google Classroom (Class Code:nilabin) Videos and PPTs, exercises are posted in the Classroom
9 7^{th} – 11^{th} Dec 2020	Upper functions and their integrals, Riemann integrable functions as example of upper functions. The class of Lebesgue integrable functions on a general interval.	Mathematical Analysis by Tom M Apostol	Online meet link: **mgurqbwrge** Google Classroom (Class Code:nilabin) Videos and PPTs, exercises are posted in the Classroom
10 14^{th} -19^{th} Dec 2020	Basic properties of Lebesgue integral. Lebesgue integration and sets of measure zero. **UNIT-4; Riemann integral continued** Integration of bounded variation.Necessary and sufficient	Mathematical Analysis by Tom M Apostol	Online meet link: **mgurqbwrge** Google Classroom (Class Code:nilabin) Videos and PPTs,

	conditions **CA-1**		exercises are posted in the Classroom
11 21st -28th Dec 2020	Integral function of the intervals, 2nd fundamental theorem of integral calculus, Change of variable in Riemann integral. Christmas Holidays(24/12/20 &25/12/20)	Mathematical Analysis by Tom M Apostol	Online meet link: **mgurqbwrge** Google Classroom (Class Code:nilabin) Videos and PPTs, exercises are posted in the Classroom
12 29th – 31 Jan 2020	Second mean value theorem, R-S integral on parameter. Revision for CA -2 **CA-2**	Mathematical Analysis by Tom M Apostol	Online meet link: **mgurqbwrge** Google Classroom (Class Code:nilabin) Videos and PPTs, exercises are posted in the Classroom

Dr. Jaya Sunil R
24/12/2020

LESSON PLAN FOR THE ACADEMIC YEAR 2020 – 2021.

(EVEN SEMESTER)

1. I. M.Sc. Mathematics – Real Analysis-II – 5
2. I. B.Sc. Computer Science – Allied Mathematics-II – 6
3. I. B.BA – Business Mathematics & Statistics – II – 5
4. III. B.Sc. Mathematics – Real Analysis – II – 1

17

Total No of hours : 17 hrs

Staff Incharge : P. ROSELYN BESI

Month	Week	I. BBA	I. B.Sc. CS	I. M.Sc. Maths.	III. B.Sc. Maths.
JANUARY	1	UNIT-I: Mathematics of finance Mathematics of finance, Simple and Compound Interest.	UNIT-I: Scalar and vector point functions, Differentiation of vectors.	UNIT-II: Double sequence, pointwise convergence of sequence of functions, Examples.	UNIT-V The Lebesgue integral (Continued) Definition and examples
	2	Discount on bills, pay roll wages.	Differential operators, problems.	Uniform convergence and continuity, Cauchy condition for uniform convergence.	Examples of Measurable function Theorems on measurable function
	3	Commission, Annuities.	Directional Derivatives, Gradient.	Uniform convergence of infinite series of function Uniform convergence and Riemann Stieltjes integration. non-uniformly convergent sequences, term by term.	Properties on measurable functions.
	4	UNIT-II: Integration. Integration, Indefinite integrals, standard forms	Divergence and curl.	Uniform convergence and differentiation, sufficient condition for double sequences, Mean convergence.	Revision
	1	Integration of x^n, $1/x$, e^x Basic theorems on integration.	UNIT-II: Integration of vectors Line integral, Surface Integral	UNIT-II: Multiplication of power series, Substitution theorem, Reciprocal of power series.	Definition and existence of the Lebesgue integ for bounded function-theore
	2	Integration by substitution, partial fractions.	Volume integral, Green's theorem statement and application.	Real power series, Taylor's, Bernstein's theorem.	

	2	fractions.	and application.		
FEBRUARY	3	Integration by parts, Uses in economics.	Gauss's theorem statement and application.	Abel's limit theorem, Taubel's theorem.	Revision.
	4	UNIT-III: Correlation and regression. Correlation. Revision for CA-I	Stoke's theorem statement and application.	UNIT-IV Orthogonal system of functions, the theorem on best approximation.	Revision
MARCH	1	I. CA. EXAMINATIONS			
	2	Karl Pearson's coefficient of correlation	UNIT-III: PDE Formation of PDE by eliminating arbitrary constants arbitrary functions. Solutions of standard types 1st order differential equation	Fourier series of a function relative to an orthonormal system, Properties of fourier Coefficients, Riesz Fischer theorem	Theorems on Lebesgue integ Properties of the Lebesgue integr for bounded measurable functions: theore
	3	Spearman's Rank correlation, Regression. Simple regression equations, regression coefficients.	Solution of $f(x,p,q)=0$, $f(y,p,q)=0$, $f(z,p,q)=0$. Solution of $f_1(x,p)=f_2(y,q)$ Solution of $z=px+qy+f(p,q)$.	Convergence and Representation problems for trigonometric series, Riemann Lebesgue lemma.	
	4	UNIT-IV Index Numbers Various methods of construction of index numbers, Unweighted index numbers.	UNIT-IV: Laplace Transformations Definition of laplace transforms, Laplace transforms of standard functions, Problems.	Dirichlet integrals, Integral representation of partial sums of a fourier series Riemann's localisation	Revision

Month	Week	I. B.BA	I. B. Sc. CS	I. M. Sc Maths	III. B. Sc Maths
APRIL	1	Weighted index numbers, Quantity index numbers, Value index numbers Tests of consistency.	Inverse Laplace transforms Solving ODE of 2nd order with constant coefficients using Laplace transforms.	UNIT-V: Directional Derivatives, continuity, Total derivative, expressed in partial derivatives.	Relationship between Riemann and Lebesgue integral.
	2	Base shifting, Consumer price index. Aggregate, Family budget method.	UNIT-V - Fourier series. Definition of Fourier series Problems based on Fourier series.	Matrix of a linear function, Jacobian matrix, Chain rule, Matrix form of chain rule.	Riemann and Lebesgue integral properties
	3	UNIT-V: Probability. Permutation and combination Trial, Event, Sample space, Mutually exclusive events.	Finding Fourier coefficients for a given periodic function with period 2π. Odd function.	Mean value theorem for differentiable functions, functions with non-zero Jacobian.	Revision
	4	Exhaustive events, independent Addition, Axiomatic definition Multiplication theorems.	Even function, Half range series.	Inverse function theorem, Implicit function theorem extrema of real valued functions of one variable	Revision.