

Name - Gupreet Kaur
(Extension lecturer)
Mathematics.

Lesson plan

Subject- Mathematics

Subject Code- B 23- MAT-301 Session- 2015-16

Paper name- Practical
Differential Equation - I
Maxima

End Term Exams Marks-
External Pr. - 20

Practical
Internal theory marks- 10

S.no.	Week	Syllabus
1	1 Aug - 2 Aug	Solution of first and second order differential Equation.
2	8- August/15	Plotting of family of solutions of D.E.
3	22-23 August	Solution of D.E. by using Variation of parameter.
4	29-30 August	Growth & decay model. Lake pollution model.
5	12- September	Density dependent growth model.
6	19-20 September	Predatory - Prey - Model
7	26-27 September	Solution of L.D.E of second order using built in function of Maxima
8	3-04 October	Find Numerical solution of first order ODE using fplot built in function.
9	10-11 October	To find Exact solution of ODE using
10	17-18 October	To find Exact solution using desolve function.
11	31 Oct, 1 November	Problem solving for D.E. reducible to hom. solution using Exact D.E.
12	7-8 November	Solution using L.D.E with constant coeff. Solution using variable coeff.
13	14- November	Solution by method of undetermined coeff.
14	15 November	Problem solving for simultaneous differential Equation.
15	21-22 November	Problem solving for P.D.E using Lagrange's Method.
16	21-22 November	Problem solving of P.D.E. with Charpit's Method & Jacobi's Method

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(Mathematics)

Lesson plan

Subject- Mathematics

Subject Code- M H - 1

Session 2025-26

Paper name- Number Theory

End Term Exams Marks- 70

Internal theory marks- 30

S.no.	Week	Syllabus
1	18-21 August	The Equation $ax+by=c$, simultaneous Linear Equations.
2	25-28 August	Pythagorean Triangle
3	1 Sept to 4 Sept	Assorted examples, Ternary quadratic forms.
4	2 8, 9, 10 Sept	Rational points on curve.
5	15-18 Sept.	Elliptic curve, curve of genus greater than 1, Farey Sequence, Hurwitz thm.
6	24-25 Sept	Rational Approximation, Geometry of Irrational Numbers
7	6-October	Blichfeldt's Poincaré, Minkowski's convex body thm.
8	7-9 October	Lagrange's four square theorem.
9	13-16 Oct	Euclidean algorithm, Infinite continued fraction.
10	13-16 Oct.	Irrational Numbers, Approximation to irrational number.
11	21-28 Oct	Best Possible Approximation
12	29-30 October	Periodic continued fraction.
13	3-6 November	Pell's Equation.
14	10-13 November	Partitions, Farey Graphs, formal power series, generating function.
15	17-18 November	Euler's Identity, Euler's formula, Bounds of $P(n)$
16	24 19-20 November	Jacobi formula, Divisibility property.

afterwards

Revision & Test.

CLASS - B.Sc. (Sem-5) Teacher's Name - Gursurat
 Paper - Sequence & Series (Excursion Lect. (Math))

WEEK	DATE	TOPICS
1	21-23 July	Sets, Bounded, unbounded sets.
2.	24 July	LUB / GLB (Definitions, Examples) Theorems - bdd / unbdd sets.
3	04-06 August	Examples, Problems, discussion, Nbd. of point & Theorems.
4	11-13 August	Interior set, open set, closed set Examples & Theorems.
5.	18 Aug. & 20 August	Limit point, closure, Theorems, Problems B.W.T. Compact set, Cover, open cover.
6.	25-27 Aug	Sequence, Cgt, dgt & oscillating Sequence Examples, Problem discussion, Test Basic Theorem on squeeze principle.
7	1-Sept, 3 Sept	Cauchy first theorem, second theorem Examples, Problems, Monotonic sequence Test - I
8.	08-10 Sept	Nested sequence, Examples, Limit point of sequence, Cauchy sequence, subsequence & Examples.
9.	15-17 Sept	CGTC, geometric series, Comparison Test, p Test, Ratio, Rabbet's test, Cauchy root test, logarithmic test, De Moivre's & Gauss Test
10	24-September	Alternating Series, Leibnitz Test, Absolute & conditional convergence Arbitrary series, Abel's Test, Dirichlet test

Sequence & Series

(Teacher's Name
Guest Lecturer
(Mathematics))

Week	DATE	TOPIC
11.	24 Sept, 1 Oct 6-8 Oct	Insertion & removal of Parenthesis, Examples Riemann Rearrangement Theorem, Multiplication of series Mertens's theorem & Examples. <u>Test</u>
12.	13-15 Oct. : 1) 13, 14, 15 Oct.	Infinite product, Sequence of partial sum G.P.C., More theorems on Infinite product. Examples, Problems
13.	<u>Revision</u> 27-Oct to 24-11-Nov	Revision. <u>Test</u>