Lesson Plan
MCM DAV College for Women, Sector – 36A, Chandigarh
Monthly Teaching Plans-Odd Semester (Semester-I)
Session – 2025-26

Department: Mathematics

Class: MSc-I Mathematics
Subject: MATH-601S: Real Analysis-I

Name of the Teacher: Dr Nisha Sharma

Month	**Date**		**Topics to be covered**	**Academic Activity to be Undertaken**
	From	**To**		
August	01.08.2025	31.08.2025	Countable and Uncountable Sets, Metric Spaces, Open and Closed Sets, Interior Point	Syllabus, Examination pattern discussed, Doubt Session.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 27.08.2025				
September	01.09.2025	30.09.2025	Limit Point, Closed Set, Equivalent Metrices, Subspaces, Compactness, Connectedness, Convergent Sequences	Doubt session, Assignments, revision of a few topics.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 24.09.2025				
October	01.10.2025	31.10.2025	Subsequences, Complete Metric Spaces, Limit Inferior and Superior, Series, Limit and Continuity, Reimann Stieltjes integral definition and existence results	Doubt session, Assignments, Power Point Presentations.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 29.10.2025				
November	01.11.2025	13.11.2025	Properties of R-S integral, Relation between R-S and R integral, Integration of vector-valued function, Sequence and Series of functions	Doubt session, Assignments, Power Point Presentations, Question papers discussed. Revision of a few topics
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 12.11.2025				
End semester Examination 14.11.2025 to 26.12.2025				

Lesson Plan
MCM DAV College for Women, Sector – 36A, Chandigarh
Monthly Teaching Plans-Odd Semester (Semester-I)
Session – 2025-26
Department: Mathematics
Class: MSc-I Mathematics
Subject: MATH-602S: Algebra-I
Name of the Teacher: Dr Navjot Kaur

Month	**Date**		**Topics to be covered**	**Academic Activity to be Undertaken**
	From	**To**		
August	1.08.2025	31.08.2025	Review of basic concepts of groups with emphasis on exercises. Permutation groups, Even and odd permutations	Syllabus, Examination pattern discussed, Doubt Session.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 27.08.2025				
September	01.09.2025	30.09.2025	Conjugacy classes of permutations, Alternating groups, Simplicity of An, n > 4. Cayley's Theorem, Direct products, Fundamental Theorem for finite abelian groups, Sylow theorems and their applications, Finite Simple groups	Doubt session, Assignments, revision of a few topics.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 24.09.2025				
October	03.10.2025	31.10.2025	Survey of some finite groups, Groups of order p2, pq (p and q primes). Solvable groups, Normal and subnormal series, composition series, the theorems of Schreier and Jordan Holder	Doubt session, Assignments, Power Point Presentations.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 29.10.2025				
November	01.11.2025	13.11.2025	Review of basic concepts of rings with emphasis on exercises. Polynomial rings, formal power series rings, matrix rings, the ring of Guassian Integers.	Doubt session, Assignments, Power Point Presentations, Question papers discussed. Revision of a few topics
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 12.11.2025				
End semester Examination 14.11.2025 to 26.12.2025				

Lesson Plan

MCM DAV College for Women, Sector – 36A, Chandigarh

Monthly Teaching Plans-Odd Semester (Semester-I)

Session – 2025-26

Department: Mathematics

Class: MSc-I Mathematics

Subject: MATH-603S: DIFFERENTIAL EQUATIONS

Name of the Teacher: Dr NAVJOT KAUR

Month	**Date**		**Topics to be covered**	**Academic Activity to be Undertaken**
	From	**To**		
August	01.08.2025	31.08.2025	Existence and uniqueness of solution of first order equations. Boundary value problems and Strum-Liouville theory (Homogeneous).	Syllabus, Examination pattern discussed, Doubt Session.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 27.08.2025				
September	01.09.2025	30.09.2025	Non-Homogeneous Strum-Liouville Boundary value problems. ODE in more than 2-variables (Surfaces and curves in three dimension).	Doubt session, Assignments, revision of a few topics.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 24.09.2025				
October	01.10.2025	31.10.2025	Classification and methods to solve specific kind of differential equations. Partial differential equations of first order (Linear and non-linear).	Doubt session, Assignments, Power Point Presentations.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 29.10.2025				
November	01.11.2025	13.11.2025	Partial differential equations of second order and their classification.	Doubt session, Question papers discussed. Revision tests.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 12.11.2025				
End semester Examination 14.11.2025 to 26.12.2025				

Lesson Plan
MCM DAV College for Women, Sector – 36A, Chandigarh
Monthly Teaching Plans-Odd Semester (Semester-I)
Session – 2025-26

Department: Mathematics

Class: MSc-I Mathematics
Subject: MATH-604S: Complex Analysis-I

Name of the Teacher: Ms Promila

Month	Date		Topics to be covered	Academic Activity to be Undertaken
	From	To		
August	01.08.2025	31.08.2025	Complex plane, geometrical representation of complex number, joint equation of circle and line, stereographic projection and spherical of the extended complex plane. Topology on complex plane, connected and simply connected sets.	Syllabus, Examination pattern discussed, Doubt Session.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 27.08.2025				
September	01.09.2025	30.09.2025	Complex valued functions and their continuity. Curves, connectivity through polygonal lines. Analytic functions, Cauchy-Riemann equations, Harmonic functions and Harmonic conjugates. Power series, exponential and trigonometric functions, arg z, log z, a z and their continuous branches.	Doubt session, Assignments, revision of a few topics.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 24.09.2025				
October	03.10.2025	31.10.2025	Complex Integration, line integral, Cauchy's theorem for a rectangle, Cauchy's theorem in disc, index of a point with respect to a closed curve.	Doubt session, Assignments, Power Point Presentation.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 29.10.2025				
November	01.11.2025	13.11.2025	Cauchy's Integral farmula, Higher derivatives, Morrera's theorem, Liouville's theorem, fundamental theorem of algebra. The general form of Cauchy's theorem.	Doubt session, Assignments, Power Point Presentations, Question papers discussed. Revision of a few topics
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 12.11.2025				
End semester Examination 14.11.2025 to 26.12.2025				

Lesson Plan
MCM DAV College for Women, Sector – 36A, Chandigarh
Monthly Teaching Plans-Odd Semester (Semester-I)
Session – 2025-26

Department: Mathematics

Class: MSc-I Mathematics
Subject: MATH-605S: Number Theory-I

Name of the Teacher: Dr Chitra

Month	Date		Topics to be covered	Academic Activity to be Undertaken
	From	To		
August	01.08.2025	31.08.2025	Divisibility, Greatest common divisor, Euclidean Algorithm, The Fundamental Theorem of arithmetic,	Syllabus, Examination pattern discussed, Doubt Session.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 27.08.2025				
September	01.09.2025	30.09.2025	Congruences, Special divisibility tests, Chinese remainder theorem, Fermat's little theorem, Wilson's theorem, Residue classes and reduced residue classes, An Application to cryptography, Euler's theorem, Arithmetic functions	Doubt session, Assignments, revision of a few topics.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 24.09.2025				
October	01.10.2025	31.10.2025	Mobius inversion Formula, the greatest integer function, perfect numbers, Mersenne primes and Fermat numbers. Primitive roots and indices, Quadratic residues	Doubt session, Assignments, Power Point Presentations.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 29.10.2025				
November	01.11.2025	13.11.2025	Quadratic reciprocity law, Jacobi symbol, Binary quadratic forms and their reduction, sums of two and four squares, positive definite binary quadratic forms, Diophantine equations	Doubt session, Assignments, Power Point Presentations, Question papers discussed. Revision of a few topics
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 12.11.2025				
End semester Examination 14.11.2025 to 26.12.2025				

Lesson Plan
MCM DAV College for Women, Sector – 36A, Chandigarh
Monthly Teaching Plans-Even Semester (Semester-II)
Session – 2025-26

Department: Mathematics

Class: MSc-I Mathematics
Subject: MATH-621S: Real Analysis-II

Name of the Teacher: Dr Nisha Sharma

Month	**Date**		**Topics to be covered**	**Academic Activity to be Undertaken**
	From	**To**		
January	10.01.2026	31.01.2026	Differentiation of vector-valued function, Space of linear transformations as a metric - spaces, Differentiation of vector-valued function of several variables, Inverse function theorem, Implicit function theorem, Outer measure	Syllabus, Examination pattern discussed, Doubt Session.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 28.01.2026				
February	01.02.2026	28.02.2026	Measurable sets and Lebesgue measure, Non-measurable Set , Measurable functions, Littlewood's three principles	Doubt session, Assignments, revision of a few topics.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 25.02.2026				
March	01.03.2026	31.03.2026	Lebesgue Integral of bounded function over a set of finite mesure, Lebesgue Integral of non-negative function, General Lebesgue Integral Convergence in measure	Doubt session, Assignments, Power Point Presentations.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 25.03.2026				
April	01.04.2026	25.04.2026	Differentiation of monotone function, Differentiation of an integral, Absolute continuity, Convex functions	Doubt session, Assignments, Power Point Presentations, Question papers discussed. Revision of a few topics.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 22.04.2026				
End semester Examination 27.04.2026 to 05.06.2026				

Lesson Plan

MCM DAV College for Women, Sector – 36A, Chandigarh

Monthly Teaching Plans-Even Semester (Semester-II)

Session – 2025-26

Department: Mathematics

Class: MSc-I Mathematics

Subject: MATH-622S: Algebra-II

Name of the Teacher: Dr Navjot Kaur

Month	**Date**		**Topics to be covered**	**Academic Activity to be Undertaken**
	From	**To**		
January	10.01.2026	31.01.2026	Factorization Theory in Integral Domains, Divisibility, Unique Factorization Domain (UFD), Principal Ideal Domain (PID), Euclidian Domain (ED) and their relationships.	Syllabus, Examination pattern discussed, Doubt Session.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 28.01.2026				
February	01.02.2026	28.02.2026	Noetherian and Artinian Rings, Examples and Counter Examples, Artinian Rings without zero divisors, Nil Ideals in Artinian Rings, Hilbert Basis Theorem.	Doubt session, Assignments, revision of a few topics.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 25.02.2026				
March	01.03.2026	31.03.2026	Modules, Difference between Modules and Vector Spaces, Module Homomorphisms, Quotient Module, Completely reducible or Semisimple Modules, Free Modules, Representation and Rank of Linear Mappings	Doubt session, Assignments, Power Point Presentations.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 25.03.2026				
April	01.04.2026	25.04.2026	Smith normal Form over a PID, Finitely generated modules over a PID, Rational Canonical Form, Applications to finitely generated abelian groups	Doubt session, Assignments, Power Point Presentations, Question papers discussed. Revision of a few topics.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 22.04.2026				
End semester Examination 27.04.2026 to 05.06.2026				

Lesson Plan

MCM DAV College for Women, Sector – 36A, Chandigarh
Monthly Teaching Plans-Even Semester (Semester-II)
Session – 2025-26

Department: Mathematics

Class: MSc-I Mathematics
Subject: MATH-623S: VECTOR ANALYSIS AND MECHANICS

Name of the Teacher: Dr NAVJOT KAUR

Month	**Date**		**Topics to be covered**	**Academic Activity to be Undertaken**
	From	**To**		
January	10.01.2026	31.01.2026	**Vectors:** Vectors Scalar and vector point functions, Differentiation and integration of vectors, Gradient divergence and curl operators.	Syllabus, Examination pattern discussed, Doubt Session.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 28.01.2026				
February	01.02.2026	28.02.2026	Green's and Stoke's theorems, Gauss' divergence theorem, Curvilinear co-ordinates.	Doubt session, Assignments, Class tests.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 25.02.2026				
March	01.03.2026	31.03.2026	**Mechanics:** Mechanics Generalized co-ordinates. Lagrange's equations. Hamilton's canonical equations. Hamilton's principle of least action. Reduction to the equivalent one body problem. The equations of motion and first integral.	Doubt session, Assignments, Power Point Presentations. Class tests.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 25.03.2026				
April	01.04.2026	25.04.2026	The equivalent one-dimensional problem and classification of orbits. The Viral theorem. Rigid body motion about an axis. Moving axis.	Doubt session, Assignments, Question papers discussed. Revision of the topics important from examination point of view.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 22.04.2026				
End semester Examination 27.04.2026 to 05.06.2026				

Lesson Plan

MCM DAV College for Women, Sector – 36A, Chandigarh
Monthly Teaching Plans-Even Semester (Semester-II)
Session – 2025-26

Department: Mathematics

Class: MSc-I Mathematics
Subject: MATH-624S: Complex Analysis-II

Name of the Teacher: Ms Promila

Month	**Date**		**Topics to be covered**	**Academic Activity to be Undertaken**
	From	**To**		
January	10.01.2026	31.01.2026	Taylor's theorem, Laurent's theorem, Maximum Modulus principal and Schwarz's Lemma, zeros and singularities of a function, application of Schwarz's Lemma, Taylor series and Laurent series	Syllabus, Examination pattern discussed, Doubt Session.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 28.01.2026				
February	01.02.2026	28.02.2026	Singularities, Cauchy's Residue theorem,,calculus of residue,bilinear transformation,Zeros and poles of meromorphic functions,Rouche's theorem, Argument Principal	Doubt session, Assignments, revision of a few topics.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 25.02.2026				
March	01.03.2026	31.03.2026	Definitions and examples of conformal mappings,infinite products,weierstrass theorem,,Mittagleffer's theorem, canonical product	Doubt session, Assignments, Power Point Presentations.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 25.03.2026				
April	01.04.2026	25.04.2026	Analytic continuation through power series, Natural boundary,The Gamma function and Riemann Zeta function	Doubt session, Assignments, Power Point Presentations, Question papers discussed. Revision of a few topics.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 22.04.2026				
End semester Examination 27.04.2026 to 05.06.2026				

Lesson Plan
MCM DAV College for Women, Sector – 36A, Chandigarh
Monthly Teaching Plans-Even Semester (Semester-II)
Session – 2025-26

Department: Mathematics

Class: MSc-I Mathematics
Subject: MATH-625S: Number Theory-II

Name of the Teacher: Dr Chitra

Month	**Date**		**Topics to be covered**	**Academic Activity to be Undertaken**
	From	**To**		
January	10.01.2026	31.01.2026	Farey sequences, Continued fractions, Approximation of reals by rationals, Pell's equations,	Syllabus, Examination pattern discussed, Doubt Session.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 28.01.2026				
February	01.02.2026	28.02.2026	Minkowski's theorem and its applications,	Doubt session, Assignments, revision of a few topics.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 25.02.2026				
March	01.03.2026	31.03.2026	Partitions, Order of magnitude and average order of arithmetic functions,	Doubt session, Assignments, Power Point Presentations.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 25.03.2026				
April	01.04.2026	25.04.2026	Euler Summation Formula, Abel's Identity, Elementary results on distribution of primes.	Doubt session, Assignments, Power Point Presentations, Question papers discussed. Revision of a few topics.
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 22.04.2026				
End semester Examination 27.04.2026 to 05.06.2026				