HIRALAL MAZUMDAR MEMORIAL COLLEGE FOR WOMEN

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Academic Calendar for Mathmatics General

YEAR : 2017-18

1st Year General

Session	Topics	Remarks
Term 1, Half 1 (July – October)	1. Classical Algebra (Matrix, Determinants) 2. 2D Geometry (Pair of St. Line) 3. Vector Algebra (Vector Algebra) 4. Differential Equation (upto Homogeneous Equation)	27 days Puja Vacation
Term 1, Half 2 (November – December)	1. Classical Algebra (Complex no. Polynomials) 2. 2D Geometry (Tangents) 3. Vector Algebra (Application) 4. Differential Equation (Rest)	1 Week Winter Recess
Term 2, Half 1 (January– March)	1. Differential Calculus(upto successive Derivatives) 2. 2D Geometry (poles and polars) 3. Integral Calculus 4. Vector Equation (problems)	
Term 2, Half 2 (April – June)	1. Differential Calculus (Rest) 2. All topics for counselling	1st Yr. & 2nd Yr. Selection Test, University Exam, 4 Weeks Summer Recess

NB: In addition to lectures classes, there will be tutorials, class tests, contact with teachers etc. For details please refer to departmental time table.

2nd Year General

Session	Topics	Remarks
Term 1, Half 1 (July – October	1. Differential Calculus (upto Real valued Function) 2. Integral Calculus (Improper, Double) 3. Modern Algebra (Set, Group) 4. 3D Geometry (Coordinates, Planes, St. Line)	27 days Puja Vacation
Term 1, Half 2 (November – December)	1. Differential Calculus (Rest) 2. Integral Calculus (Rest) 3. Modern Algebra (Rest)	1 Week Winter Recess

Session	Topic	Remarks
Term 1, Half 2(November-December)	4. 3D Geometry (Sphere.Cone) 5. L.P.P. (Fundamentals, Graphical Solution) 6. Statistics (Statistical method, Sampling theory	1 week Winter Recess
Term2, Half 1 (January-March)	1. Differential equation 2. Statistics(Rest) 3. L.P.P. (Simplex method) 4. Numerical Methods(Interpolation)	
Term 2, Half 2 (April – June)	1. Probability 2. L.P.P. (Transportation & Assignments) 3. Numerical methods (Integration, Roots of Equation)	1st Yr. & 2nd Yr. Selection Test, University Exam, 4 Weeks Summer Recess

NB: In addition to lectures classes, there will be tutorials, class tests, contact with teachers etc. For details please refer to departmental time table.

3rd Year General

Session	Topic	Remarks
Term 1, Half 1 (July -October)	1. Computer Fundamentals 2. Boolean Algebra 3. Discrete Mathematics (Integers) 4. Uniform Convergence, Power Series, Fourier series 5. Second order differential equation : (a) Method of variation of parameters, (b) Method of undetermined co-efficients (c) Simple eigenvalue problem.	27 days Puja Vacation
Term 1, Half 2 (November-December)	1. Computer Programming 2. Discrete mathematics (Congruence) 3. Boolean Algebra 4. Third and Fourth order ordinary differential equation with constant coefficients. 5. Euler's Homogeneous Equation. 6. Simultaneous linear differential equation with constant co efficient 7. Laplace Transform	1 week Winter Recess
Term2, Half 1 (January-March)	1. Computer Programming 2. Discrete mathematics (Recurrence Relation & Boolean Algebra) 3. Partial Differential Equation (PDE)	3rd year selection Test
Term 2, Half 2 (April – June)		1st Yr. & 2nd Yr. Selection Test, University Exam, 4 Weeks Summer Recess

NB: In addition to lectures classes, there will be tutorials, class tests, contact with teachers etc. For details please refer to departmental time table.

HMM COLLEGE FOR WOMEN. ACADEMIC CALENDAR 2018-19				
SEMESTER/ YEAR	SYLLABUS MODULE	NO. OF LECTURES	TEACHERS	DISTRIBUTION
1st SEM	LIMIT, CONTINUITY	30	LM	LIMIT, CONTINUITY, TYPES OF DISCONTINUITIES, DIFFERENTIABILITY OF FUNCTIONS, SUCCESSIVE DIFFERENTIATION, LEIBNITZ'S TH, PARTIAL DIFFERENTIATION, EULER'S TH.
	APPLICATION	30	LM	TANGENTS & NORMALS, CURVATURE, ASYMPTOTES, SINGULAR POINTS, TRACING OF CURVES, PARAMETRIC REPRESENTATION OF CURVES AND TRACING OF PARAMETRIC CURVES, POLAR COORDINATES AND TRACING OF CURVES IN POLAR COORDINATES.
	MEAN VALUE TH.	30	LM	ROLLE'S TH,MEAN VALUE TH, TAYLOR'S TH WITH LAGRANGE'S AND CAUCHY'S FORMS OF REMAINDER, TAYLOR'S SERIES, MACLAURIN'S SERIES OF FNS, MAXIMA & MINIMA, INDETERMINATE FORMS

2nd Year General

Session	Topics	Remarks
Term 1, Half 1 (July – October	5. Differential Calculus (upto Real valued Function) 6. Integral Calculus (Improper, Double) 7. Modern Algebra (Set, Group) 8. 3D Geometry (Coordinates, Planes, St. Line)	27 days Puja Vacation
Term 1, Half 2 (November – December)	7. Differential Calculus (Rest) 8. Integral Calculus (Rest) 9. Modern Algebra (Rest)	1 Week Winter Recess

Session	Topics	Remarks
Term 1, Half 2(November-December)	10. 3D Geometry (Sphere.Cone) 11. L.P.P. (Fundamentals, Graphical Solution) 12. Statistics (Statistical method, Sampling theory	1 week Winter Recess
Term2, Half 1 (January-March)	5. Differential equation 6. Statistics(Rest) 7. L.P.P. (Simplex method)	3rd year selection Test & 1st SEMESTER END

	8. Numerical Methods(Interpolation)	university Examination
Term 2, Half 2 (April – June)	4. Probability 5. L.P.P. (Transportation & Assignments) 6. Numerical methods (Integration, Roots of Equation)	2nd Yr. Selection Test, University Exam, 4 weeks Summer Recess

NB: In addition to lectures classes, there will be tutorials, class tests, contact with teachers etc. For details please refer to departmental time table.

3rd Year General

Session	Topic	Remarks
Term 1, Half 1 (July -October)	6. Computer Fundamentals 7. Boolean Algebra 8. Discrete Mathematics (Integers) 9. Uniform Convergence, Power Series, Fourier series 10. Second order differential equation : (a) Method of variation of parameters, (b) Method of undetermined co-efficients (c) Simple eigenvalue problem.	27 days Puja Vacation
Term 1, Half 2 (November-December)	8. Computer Programming 9. Discrete mathematics (Congruence) 10. Boolean Algebra 11. Third and Fourth order ordinary differential equation with constant coefficients. 12. Euler's Homogeneous Equation. 13. Simultaneous linear differential equation with constant co efficient 14. Laplace Transform	1 week Winter Recess
Term2, Half 1 (January-March)	4. Computer Programming 5. Discrete mathematics (Recurrence Relation & Boolean Algebra) 6. Partial Differential Equation (PDE)	3rd year selection Test
Term 2, Half 2 (April – June)	Extra classes, Remedial classes as per Students' requirements	2nd Yr. Selection Test,

		University Exam, 4 Weeks Summer Recess

NB: In addition to lectures classes, there will be tutorials, class tests, contact with teachers etc. For details please refer to departmental time table.

SEMESTER/ YEAR	SYLLABUS MODULE	NO. OF LECTURES	TEACHERS	DISTRIBUTION
1st SEM	LIMIT, CONTINUITY	30	LM	LIMIT, CONTINUITY, TYPES OF DISCONTINUITIES, DIFFERENTIABILITY OF FUNCTIONS, SUCCESSIVE DIFFERENTIATION, LEIBNITZ'S TH, PARTIAL DIFFERENTIATION, EULER'S TH.
	APPLICATION	30	LM	TANGENTS & NORMALS, CURVATURE, ASYMPTOTES, SINGULAR POINTS, TRACING OF CURVES, PARAMETRIC REPRESENTATION OF CURVES AND TRACING OF PARAMETRIC CURVES, POLAR COORDINATES AND TRACING OF CURVES IN POLAR COORDINATES.
	MEAN VALUE TH.	30	LM	ROLLE'S TH,MEAN VALUE TH, TAYLOR'S TH WITH LAGRANGE'S AND CAUCHY'S FORMS OF REMAINDER, TAYLOR'S SERIES, MACLAURIN'S SERIES OF FNS, MAXIMA & MINIMA, INDETERMINATE FORMS
2ND SEM	INTEGRATING FACTORS & ITS USES TO D.E.	35	LM	FIRST ORDER EXACT D.E., INTEGRATING FACTORS, RULES TO FIND AN INTEGRATING FACTOR. FIRST ORDER HIGHER DEGREE EQUATIONS SOLVABLE FOR X,Y,P. METHODS FOR SOLVING HIGHER-ORDER D.E.SOLVING A DIFFERENTIAL EQUATION BY REPLACING ITS ORDER. WRONSKIANS & ITS PROPERTIES.
	LINEAR EQN.	30	LM	LINEAR HOMOGENEOUS EQNS WITH CONST COEFFTS, LINEAR NON-HOMOGENEOUS EQNS. THE METHOD OF VARIATION OF PARAMETERS. THE CAUCHY-EULER EQN. SIMULTANEOUS DIFFL. EQN. TOTAL DIFFL. EQN.
	PARTIAL DIFFERENTIAL EQN.	25	LM	ORDER & DEGREE OF PARTIAL DIFFERENTIAL EQN., CONCEPT OF LINEAR AND NON-LINEAR PARTIAL DIFFL. EQNS, FORMATION OF FIRST ORDER PARTIAL DIFFL. EQN., LINEAR PARTIAL DIFFL. EQN. OF FIRST ORDER,

				LAGRANGE'S METHOD, CHARPIT'S METHOD. CLASSIFICATION OF 2ND ORDER PARTIAL DIFFL. EQN. INTO ELLIPTIC, PARABOLIC & HYPERBOLIC THROUGH ILLUSTRATIONS.
3RD SEM	SETS	12	LM	FINITE & INFINITE SETS, EXAMPLES OF COUNTABLE AND UNCOUNTABLE SETS. REAL LINE, BOUNDED SETS, SUPREMA AND INFIMA, COMPLETENESS PROPERTY OF R, ARMEDIAN PROPERTY OF R, INTERVALS, CONCEPT OF CLUSTER POINTS AND STATEMENT OF BOLZANO-WEIERSTRASS TH.
	SEQUENCE	24	LM	REAL SEQUENCE, BOUNDED SEQUENCE, CAUCHY'S CONVERGENCE CRITERION FOR SEQUENCE. CAUCHY'S THEOREM ON LIMIT, ORDER PRESERVATION AND SQUEEZE THEOREM, MONOTONE SEQUENCE AND THEIR CONVERGENCE
	SERIES	24	LM	INFINITE SERIES, CAUCHY CONVERGENCE CRITERION FOR SERIES, POSITIVE TERM SERIES, GEOMETRIC SERIES, COMPARISON TEST, CONVERGENCE OF P-SERIES, ROOT TEST, RATIO TEST, ALTERNATING SERIES, LEIBNITZ'S TEST. DEFINITION & EXAMPLES OF ABSOLUTE AND CONDITIONAL CONVERGENCE.
	CONVERGENCE	30	LM	SEQUENCES & SERIES OF FNS, POINTWISE & UNIFORM CONVERGENCE, M-TEST, STATEMENTS OF THE RESULTS ABOUT UNIFORM CONVERGENCE AND INTEGRABILITY AND DIFFERENTIABILITY OF FNS. POWER SERIES AND RADIUS OF CONVERGENCE.
3RD YR	BOOLEAN ALGEBRA	10	LM	BASIC POSTULATES & DEFINITION, BOOLEAN FUNCTION, TRUTH TABLE, STANDARD FORMS OF BOOLEAN FUNCTION DNF & CNF, MINTERMS & MAXTERMS, PRINCIPLE OF DUALITY.

				SOME LAWS & THEOREM OF BOOLEAN ALGEBRA. SIMPLIFICATION OF BOOLEAN EXPRESSIONS, ALGEBRAIC METHOD & KARNAUGH MAP METHOD, APPLICATION OF BOOLEAN ALGEBRA SWITCHING CIRCUITS, CIRCUIT HAVING SOME SPECIFIED PROPERTIES. LOGICAL GATES-AND, NOT, OR, NAND, NOR ETC.
	COMPUTER SCIENCE AND PROGRAMMING	20	LM	HISTORICAL DEVELOPMENTS, COMPUTER GENERATION, COMPUTER ANATOMY DIFFERENT COMPONENTS OF A COMPUTER SYSTEM, OPERATING SYSTEM, HARDWARE AND SOFTWARE POSITIONAL NUMBER SYSTEM, BINARY TO DECIMAL AND DECIMAL TO BINARY. OTHER SYSTEMS, BINARY ARITHMETIC, OCTAL, HEXADECIMAL, ETC. STORING OF DATA IN A COMPUTER – BIT, BYTE, WORD ETC. CODING OF A DATA – ASCII, ETC. PROGRAMMING LANGUAGE I/O STATEMENTS SUB PROGRAMMS ELEMENTS OF BASIC PROGRAMMING LANGUAGE APPLICATION TO SIMPLE PROBLEMS.
	CONVERGENCE	10	LM	POINT-WISE AND UNIFORM CONVERGENCE OF SEQUENCE OF FUNCTIONS AND SERIES OF FUNCTIONS WITH SPECIAL REFERENCE TO POWER SERIES. STATEMENT OF WEIERSTRASS M-TEST FOR UNIFORM CONVERGENCE OF SEQUENCE OF FUNCTIONS AND OF SERIES OF FUNCTIONS. SIMPLE APPLICATIONS. BOUNDEDNESS, CONTINUITY, DIFFERENTIABILITY AND INTEGRABILITY OF THE LIMIT FUNCTION OF UNIFORMLY CONVERGENT SEQUENCE OF FUNCTIONS AND OF THE SUM FUNCTION OF UNIFORMLY CONVERGENT SERIES OF FUNCTIONS.

				DETERMINATION OF RADIUS OF CONVERGENCE OF POWER SERIES. STATEMENT OF PROPERTIES OF CONTINUITY OF SUM FUNCTION OF POWER SERIES. TERM BY TERM INTEGRATION & DIFFERENTIATION OF POWER SERIES, ETC. SIMPLE PROBLEMS
	FOURIER SERIES	10	LM	FOURIER SERIES, PERIODIC FUNCTION. DETERMINATION OF FOURIER COEFFICIENTS. STATEMENT OF DIRICHLET'S CONDITIONS OF CONVERGENCE AND STATEMENT OF THE THEOREM ON CONVERGENCE OF FOURIER SINE AND COSINE SERIES.
	ODE	6	LM	THIRD AND FOURTH ORDER ORDINARY DIFFERENTIAL EQUATION WITH CONSTANT COEFFICIENTS. EULER'S HOMOGENEOUS EQUATION
	2^{ND} ORDER DIFFL. EQN.	10	LM	METHOD OF VARIATION OF PARAMETERS, METHOD OF UNDETERMINED COEFFICIENTS, SIMPLE EIGENVALUE PROBLEM
	SIMULTANEOUS DIFFL. EQN	5	LM	SIMULTANEOUS LINEAR DIFFERENTIAL EQUATION WITH CONSTANT COEFFICIENTS
	LAPLACE TRANSFORM	8	LM	LAPLACE TRANSFORM AND ITS APPLICATION TO ORDINARY DIFFERENTIAL EQUATION
	PDE	6	LM	INTRODUCTION OF PDE, FORMATION OF PDE, SOLUTION OF PDE, LAGRANGE'S METHOD OF SOLUTION
	DISCRETE MATHEMATICS	30	LM	INTEGERS, CONGRUENCE, APPLICATION OF CONGRUENCES, CONGUENCE CLASSES, RECURRENCE RELATIONS AND GENERATING FUNCTIONS, BOOLEAN ALGEBRA

Academic Calendar For 1st Semester : 2020-21

Sl. No.	Name of The TOPIC	No. Of Periods
1	Limit	03
2	Continuity	03
3	Types of Discontinuities	03
4	Differentiability of Functions	04
5	Successive Differentiation	06
6	Leibnitz's Theorem and its application	04
7	Partial Differentiation	04
8	Homogeneous Function	02
9	Euler's Theorem	05
10	Tangents & Normals	05
11	Curvature	05
12	Asymptotes	04
13	Singular Points	03
14	Tracing Of Curves	04
15	Polar Coordinates and tracing of Curves in Polar Coordinates	04
16	Rolle's Theorem	04
17	Mean Value Theorems	04
18	Taylor's Theorem with Lagrange's and Cauchy's form of Remainder	07
19	Taylor's Series	04
20	Maclaurin's Series	04
21	Maxima & Minima	04
22	Indeterminate Form	04
	TOTAL	90

Academic Calendar For 3rd Semester : 2020-21

Sl. No.	Name Of The TOPIC	No. Of Periods
1	Finite & Infinite Sets	02
2	Examples Of Countable & Uncountable Sets	02
3	Real Line	02
4	Bounded Sets	02
5	Suprema & Infima	02
6	Completeness Property Of **R**	02
7	Archimedian Property Of **R**	02
8	Intervals	02
9	Concept Of Cluster Points & Statement Of Bolzano-Weierstrass Theorem	03
10	Real Sequence	02
11	Bounded Sequence	02
12	Cauchy Convergence criterion for Sequences	03
13	Cauchy's Theorem on Limits	02

14	Order Preservation and Squeeze Theorem	03
15	Monotone Sequences and their convergence	03
16	Definition and Examples of Absolute and Conditional Convergence	04
17	Infinite Series	03
18	Cauchy Convergence Criterion for Series	02
19	Positive term Series	02
20	Geometric Series	02
21	Comparison Test	02
22	Covergence of p-series	02
23	Root Test	02
24	Ratio Test	02
25	Alternating Series	02
26	Leibnitz's Test (Tests Of Convergence Without Proof)	02
27	Sequences & Series of Functions	04
28	Pointwise & Uniform Convergence	03
29	M_n- Test	02
30	M-Test	02
31	Statements Of the results about uniform convergence	02
32	Differentiability & Integrability Of functions	04
33	Power Series	03
34	Radius Of Convergence	04
TOTAL		83

Academic Calendar For 5th Semester : 2020-21

Sl. No.	Name Of The Topic	No. Of Periods
1	Condition of Equilibrium of a particle and of Coplanar forces acting on a rigid body	08
2	Laws Of Friction	06
3	Problems Of Equilibrium UnderForces including Friction	08
4	Centre Of Gravity	06
5	Work & Potential Energy	07
6	Velocity & Accelerationof a particle along a Curve	05
7	Radial Transverse Components (Plane Curve)	07
8	Tangential & Normal Components (space Curve)	06
9	Newton's Laws Of Motion	09
10	Simple Harmonic Motion	10
11	Simple Pendulum	06
12	Projectile Motion	08
	TOTAL	86

Academic Calendar For2ND Semester : 2020-21

Sl. No.	Name of The TOPIC	No. Of Periods
1	INTRODUCTION OF DIFFERENTIAL EQUATION	01
2	FIRST ORDER DIFFERENTIAL EQUATION	02
3	EXACT DIFFERENTIAL EQUATION	02
4	INTEGRATING FACTORS	02
5	RULES TO FIND OUT AN INTEGRATING FACTOR	04
6	FIRST ORDER HIGHER DEGREE EQUATIONS SOLVABLE FOR X,Y,P.	04
7	METHODS FOR SOLVING HIGHER-ORDER DIFFERENTIAL EQUATION	06
8	BASIC THEORY OF LINEAR DIFFERENTIAL EQUATIONS	01
9	WRONSKIANS	02
10	PROPERTIES	02
11	SOLVING A DIFFERENTIAL EQUATION BY REDUCING ITS ORDER	07
12	LINEAR HOMOGENEOUS EQUATIONS WITH CONSTANT COEFFICIENTS	10
13	LINEAR NON-HOMOGENEOUS EQUATIONS	08
14	THE METHOD OF VARIATION OF PARAMETERS	05
15	THE CAUCHY-EULER EQUATION	08
16	SIMULTANEOUS DIFFERENTIAL EQUATION	07
17	TOTAL DIFFERENTIAL EQUATION	04
18	ORDER & DEGREE OF PARTIAL DIFFERENTIAL EQUATION	02
19	LINEAR & NON-LINEAR PARTIAL DIFFERENTIAL EQUATION	02
20	FORMATION OF FIRST ORDER PARTIAL DIFFERENTIAL EQUATION	02
21	LAGRANGE'S METHOD	03
22	CHARPIT'S METHOD	03
23	CLASSIFICATION OF SECOND ORDER PARTIAL DIFFERENTIALEQUATIONS INTO ELLIPTIC, PARABOLIC, HYPERBOLICTHROUGH ILLUSTRATIONS ONLY	03

Academic Calendar For 4TH Semester : 2020-21

Sl. No.	Name Of The TOPIC	No. Of Periods
1	Equivalence relation & Partition	02
2	functions	02
3	Composition of functions	02
4	Invertible functions	01
5	One to one correspondence and cardinality of sets	01
6	Definition & examples of groups	02
7	Examples of Abelian & Non-Abelian Groups	01
8	Cyclic groups	03

9	Complex roots of unity	01
10	Circle group	02
11	The general Linear group of symmetries	04
12	The Permutation Group Symmetry	02
13	Group of Quaternions	02
14	Subgroups	02
15	Cyclic Subgroups	02
16	Examples of subgroups including the center of a group	04
17	cosets	02
18	Index of subgroup	01
19	Lagrange's Theorem	02
20	Order of an element	01
21	Normal subgroup	02
22	Examples	02
23	Characterization	01
24	Quotient groups	04
25	Definition & Examples of a Ring	05
26	Examples of Commutative and Noncommutative Rings	02
27	Rings from number system	02
28	The Ring of Integers Modulo n	02
29	Ring of real quaternions	02
30	Rings of matrices	02
31	Polynomial Rings	02
32	The Ring of Continuous Functions	02
33	Subrings and Ideals	04
34	Integral Domain and Field	04
TOTAL		75

Academic Calendar For 6th Semester : 2020-21

Sl. No.	Name Of The Topic	No. Of Periods
1	Algorithms	06
2	Convergence	05
3	Bisection Method	05
4	False position Method	04
5	Fixed point Iteration Method	03
6	Newton's Method	03
7	Secant Method	04

8	LU Decomposition	05
9	Gauss-Jacobi Method	04
10	Gauss-Siedel Method	02
11	Lagrange Interpolation	05
12	Newton's Interpolation	03
13	Finite Difference operators	02
14	Numerical Differentiation	02
15	Trapezoidal Rule	03
16	Simpson's Rule	04
17	Euler's Method for solving ODE	04
	TOTAL	64

Academic Calendar For 1st Semester : 2021-22

Sl. No.	Name of The TOPIC	No. Of Periods
1	Limit	03
2	Continuity	03
3	Types of Discontinuities	03
4	Differentiability of Functions	04
5	Successive Differentiation	06
6	Leibnitz's Theorem and its application	04
7	Partial Differentiation	04
8	Homogeneous Function	02
9	Euler's Theorem	05
10	Tangents & Normals	05
11	Curvature	05
12	Asymptotes	04
13	Singular Points	03
14	Tracing Of Curves	04
15	Polar Coordinates and tracing of Curves in Polar Coordinates	04
16	Rolle's Theorem	04
17	Mean Value Theorems	04
18	Taylor's Theorem with Lagrange's and Cauchy's form of Remainder	07
19	Taylor's Series	04
20	Maclaurin's Series	04
21	Maxima & Minima	04
22	Indeterminate Form	04
	TOTAL	90

Academic Calendar For 3rd Semester : 2021-22

Sl. No.	Name Of The TOPIC	No. Of Periods
1	Finite & Infinite Sets	02
2	Examples Of Countable & Uncountable Sets	02
3	Real Line	02
4	Bounded Sets	02
5	Suprema & Infima	02
6	Completeness Property Of **R**	02
7	Archimedian Property Of **R**	02
8	Intervals	02
9	Concept Of Cluster Points & Statement Of Bolzano-Weierstrass Theorem	03
10	Real Sequence	02
11	Bounded Sequence	02
12	Cauchy Convergence criterion for Sequences	03
13	Cauchy's Theorem on Limits	02
14	Order Preservation and Squeeze Theorem	03

15	Monotone Sequences and their convergence	03
16	Definition and Examples of Absolute and Conditional Convergence	04
17	Infinite Series	03
18	Cauchy Convergence Criterion for Series	02
19	Positive term Series	02
20	Geometric Series	02
21	Comparison Test	02
22	Covergence of p-series	02
23	Root Test	02
24	Ratio Test	02
25	Alternating Series	02
26	Leibnitz's Test (Tests Of Convergence Without Proof)	02
27	Sequences & Series of Functions	04
28	Pointwise & Uniform Convergence	03
29	M_n- Test	02
30	M-Test	02
31	Statements Of the results about uniform convergence	02
32	Differentiability & Integrability Of functions	04
33	Power Series	03
34	Radius Of Convergence	04
TOTAL		83

Academic Calendar For 5th Semester : 2021-22

Sl. No.	Name Of The Topic	No. Of Periods
1	Condition of Equilibrium of a particle and of Coplanar forces acting on a rigid body	08
2	Laws Of Friction	06
3	Problems Of Equilibrium UnderForces including Friction	08
4	Centre Of Gravity	06
5	Work & Potential Energy	07
6	Velocity & Accelerationof a particle along a Curve	05
7	Radial Transverse Components (Plane Curve)	07
8	Tangential & Normal Components (space Curve)	06
9	Newton's Laws Of Motion	09
10	Simple Harmonic Motion	10
11	Simple Pendulum	06
12	Projectile Motion	08
	TOTAL	86

Academic Calendar For2ND Semester : 2021-22

Sl. No.	Name of The TOPIC	No. Of Periods
1	INTRODUCTION OF DIFFERENTIAL EQUATION	01
2	FIRST ORDER DIFFERENTIAL EQUATION	02
3	EXACT DIFFERENTIAL EQUATION	02
4	INTEGRATING FACTORS	02
5	RULES TO FIND OUT AN INTEGRATING FACTOR	04
6	FIRST ORDER HIGHER DEGREE EQUATIONS SOLVABLE FOR X,Y,P.	04
7	METHODS FOR SOLVING HIGHER-ORDER DIFFERENTIAL EQUATION	06
8	BASIC THEORY OF LINEAR DIFFERENTIAL EQUATIONS	01
9	WRONSKIANS	02
10	PROPERTIES	02
11	SOLVING A DIFFERENTIAL EQUATION BY REDUCING ITS ORDER	07
12	LINEAR HOMOGENEOUS EQUATIONS WITH CONSTANT COEFFICIENTS	10
13	LINEAR NON-HOMOGENEOUS EQUATIONS	08
14	THE METHOD OF VARIATION OF PARAMETERS	05
15	THE CAUCHY-EULER EQUATION	08
16	SIMULTANEOUS DIFFERENTIAL EQUATION	07
17	TOTAL DIFFERENTIAL EQUATION	04
18	ORDER & DEGREE OF PARTIAL DIFFERENTIAL EQUATION	02
19	LINEAR & NON-LINEAR PARTIAL DIFFERENTIAL EQUATION	02
20	FORMATION OF FIRST ORDER PARTIAL DIFFERENTIAL EQUATION	02
21	LAGRANGE'S METHOD	03
22	CHARPIT'S METHOD	03
23	CLASSIFICATION OF SECOND ORDER PARTIAL DIFFERENTIALEQUATIONS INTO ELLIPTIC, PARABOLIC, HYPERBOLICTHROUGH ILLUSTRATIONS ONLY	03

Academic Calendar For 4TH Semester : 2021-22

Sl. No.	Name Of The TOPIC	No. Of Periods
1	Equivalence relation & Partition	02
2	functions	02
3	Composition of functions	02
4	Invertible functions	01
5	One to one correspondence and cardinality of sets	01
6	Definition & examples of groups	02
7	Examples of Abelian & Non-Abelian Groups	01
8	Cyclic groups	03

9	Complex roots of unity	01
10	Circle group	02
11	The general Linear group of symmetries	04
12	The Permutation Group Symmetry	02
13	Group of Quaternions	02
14	Subgroups	02
15	Cyclic Subgroups	02
16	Examples of subgroups including the center of a group	04
17	cosets	02
18	Index of subgroup	01
19	Lagrange's Theorem	02
20	Order of an element	01
21	Normal subgroup	02
22	Examples	02
23	Characterization	01
24	Quotient groups	04
25	Definition & Examples of a Ring	05
26	Examples of Commutative and Noncommutative Rings	02
27	Rings from number system	02
28	The Ring of Integers Modulo n	02
29	Ring of real quaternions	02
30	Rings of matrices	02
31	Polynomial Rings	02
32	The Ring of Continuous Functions	02
33	Subrings and Ideals	04
34	Integral Domain and Field	04
TOTAL		75

Academic Calendar For 6th Semester : 2021-22

Sl. No.	Name Of The Topic	No. Of Periods
1	Algorithms	06
2	Convergence	05
3	Bisection Method	05
4	False position Method	04
5	Fixed point Iteration Method	03
6	Newton's Method	03
7	Secant Method	04

8	LU Decomposition	05
9	Gauss-Jacobi Method	04
10	Gauss-Siedel Method	02
11	Lagrange Interpolation	05
12	Newton's Interpolation	03
13	Finite Difference operators	02
14	Numerical Differentiation	02
15	Trapezoidal Rule	03
16	Simpson's Rule	04
17	Euler's Method for solving ODE	04
	TOTAL	64