KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher –Mrs. Manju Sharma / Mrs. Anita
Class- B.Sc. 1st year
Subject- Calculus
Paper- B23- MAT -101

August, 2023 **1st Week** **1 Aug - 5 Aug**	Ɛ-δ definition of limit and continuity of a real valued function, Basic properties of limits.
6 Aug, 2023	**Sunday**
2nd Week **7 Aug - 12 Aug**	Types of discontinuities, Differentiability of functions, Application of L' Hospital rule to indeterminate forms.
13 Aug, 2023	**Sunday**
3rd Week **14 Aug-19 Aug**	Successive differentiation.
15 Aug, 2023 **20 Aug, 2023**	**Independence Day** **Sunday**
4th Week **21 Aug - 26 Aug**	Leibntiz theorem, Taylor's and Maclaurin's series expansion with different forms of remainder.
27 Aug, 2023	**Sunday**
5th Week **28 Aug - 31Aug**	Asymptotes: Horizontal, vertical and oblique asymptotes for algebraic curves, Asymptotes for polar curves.
30 Aug, 2023	**Raksha Bandhan**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Mrs. Manju Sharma / Mrs. Anita
Class- B.Sc. 1st year
Subject- Calculus
Paper- B23- MAT -101

September, 2023 **1st Week** **1 Sept - 2 Sept**	Intersection of a curve and its asymptotes, Curvature.
3 Sept, 2023	**Sunday**
2nd Week **4 Sept - 9 Sept**	Curvature and radius of curvature of curves (cartesian, parametric, polar and intrinsic forms).
5 Sept, 2023 **7 Sept, 2023** **10 Sept, 2023**	**Talent Show** **Janmastami** **Sunday**
3rd Week **11 Sept-16 Sept**	Newton's method, Centre of curvature, Circle of curvature.
17 Sept, 2023	**Sunday**
4th Week **18 Sept - 22 Sept**	Multiple points, Node, Cusp.
23 Sept, 2023 **24 Sept, 2023** **25 Sept, 2023**	**Shaeedi Divas/Haryana War Heroes' Martyrdom Day** **Sunday** **Annual Prize Distribution Function**
5th Week **26 Sept - 30 Sept**	Conjugate point, Tests for concavity, Tests for convexity.

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Mrs. Manju Sharma / Mrs. Anita
Class- B.Sc. 1st year
Subject- Calculus
Paper- B23- MAT -101

October, 2023 **1 Oct , 2023** **2 Oct, 2023**	**Sunday** **Mahatama Gandhi Jayanti**
1st Week **3 Oct – 7 Oct**	Points of inflexion, Tracing of curves.
8 Oct, 2023	**Sunday**
2nd Week **9 Oct - 14 Oct**	Reduction formulae.
15 Oct, 2023	**Maharaja Agrasen Jayanti, Sunday**
3rd Week **16 Oct - 21 Oct**	Rectification with examples.
22 Oct, 2023	**Sunday**
4th Week **23 Oct – 27 Oct**	Intrinsic equation of a curve, Quadrature with examples.
24 Oct, 2023 **28 Oct, 2023** **29 Oct, 2023**	**Dussehra** **Maharishi Valmiki Jayanti** **Sunday**
5th Week **30 Oct – 31 Oct**	Area bounded by closed curves with examples.
25 Oct – 4 Nov, 2023	**Sessional Exams**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Mrs. Manju Sharma / Mrs. Anita
Class- B.Sc. 1st year
Subject- Calculus
Paper- B23- MAT -101

November, 2023 **1st Week** **1 Nov, 2023** **5 Nov, 2023**	**Haryana Day** **Sunday**
2nd Week **6 Nov – 9 Nov**	Volumes and surfaces of solids of revolution with examples.
10 Nov - 16 Nov , 2023	**Diwali Break**
3rd Week **17 Nov - 18 Nov**	Revision of syllabus.
19 Nov, 2023	**Sunday**
4th Week **20 Nov - 24 Nov**	Revision of syllabus.
5th Week **25 Nov, 2023** **Onwards**	**University Examination**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Ms. Silky puri
Class- MDC -I
Subject- Mathematics
Paper-Introductory Mathematics

August, 2023 **1st Week** **1 Aug - 5 Aug**	**Sets :representation of sets.** **Empty set, finite and infinite sets.** **Subsets, Equal sets.** **Power sets,Universal set.** **Union and intersection of sets.**
6 Aug, 2023	**Sunday**
2nd Week **7 Aug - 12 Aug**	**Difference of two sets.** **Complement of a set.** **Venn diagram,de- morgan's laws and their applications.**
13 Aug, 2023	**Sunday**
3rd Week **14 Aug-19 Aug**	**An introduction to matrices and their types.** **Operation on matrices.** **Symmetric and skew –symmetric matrices.**
15 Aug, 2023 **20 Aug, 2023**	**Independence Day** **Sunday**
4th Week **21 Aug - 26 Aug**	**Minors ,cofactors of a matrix.** **Determinant of a square matrix.** **Adjoint of a square matrix.**
27 Aug, 2023	**Sunday**
5th Week **28 Aug - 31Aug**	**Inverse of a square matrix.** **Solutions of a system of linear equations up to order 3.**
30 Aug, 2023	**Raksha Bandhan**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Ms. Silky puri
Class- MDC -I
Subject- Mathematics
Paper-Introductory mathematics

September, 2023 **1st Week** **1 Sept - 2 Sept**	**Complex numbers:operations on complex numbers.** **Modulus and argument of a complex number.** **Linear inequalities:algebraic solutions of linear inequalities in two variables.**
3 Sept, 2023	**Sunday**
2nd Week **4 Sept - 9 Sept**	**Graphical representation.** **Quadratic equations.** **Solution of quadratic equations.**
5 Sept, 2023 **7 Sept, 2023** **10 Sept, 2023**	**Talent Show** **Janmastami** **Sunday**
3rd Week **11 Sept-16 Sept**	**Arithmetic progression.** **Geometric progression.**
17 Sept, 2023	**Sunday**
4th Week **18 Sept - 22 Sept**	**Harmonic progression.** **Relation between A.M.,G.M. AND H.M.**
23 Sept, 2023 **24 Sept, 2023** **25 Sept, 2023**	**Shaeedi Divas/Haryana War Heroes' Martyrdom Day** **Sunday** **Annual Prize Distribution Function**
5th Week **26 Sept - 30 Sept**	**Straight lines:slope of a line .** **Angle between two lines.** **Different forms of equation of a line:parallel to coordinate axes.**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher - Ms. Silky puri
Class- MDC -I
Subject- Mathematics
Paper-Introductory mathematics

October, 2023 **1 Oct , 2023** **2 Oct, 2023**	 **Sunday** **Mahatama Gandhi Jayanti**
1st Week **3 Oct – 7 Oct**	**Slope-intercept form.** **Two- point form.** **Questions.**
8 Oct, 2023	**Sunday**
2nd Week **9 Oct - 14 Oct**	**General form.** **Distance of a point from a straight line.**
15 Oct, 2023	**Maharaja Agrasen Jayanti, Sunday**
3rd Week **16 Oct - 21 Oct**	**Standard form of a circle.** **Questions.**
22 Oct, 2023	**Sunday**
4th Week **23 Oct – 27 Oct**	**Properties of a circle.** **Questions.**
24 Oct, 2023 **28 Oct, 2023** **29 Oct, 2023**	**Dussehra** **Maharishi Valmiki Jayanti** **Sunday**
5th Week **30 Oct – 31 Oct**	**To find centre and radius of a circle.** **Questions.**
25 Oct – 4 Nov, 2023	**Sessional Exams**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher- Ms. Silky puri
Class- MDC -I
Subject- Mathematics
Paper-Introductory mathematics

November, 2023 **1st Week** **1 Nov, 2023** **5 Nov, 2023**	**Haryana Day** **Sunday**
2nd Week **6 Nov – 9 Nov**	**Revision and tests.**
10 Nov - 16 Nov , 2023	**Diwali Break**
3rd Week **17 Nov - 18 Nov**	**Revision and tests.**
19 Nov, 2023	**Sunday**
4th Week **20 Nov - 24 Nov**	**Revision and tests.**
5th Week **25 Nov, 2023** **Onwards**	**University Examination**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher –Ms. MEENU KALRA
Class-B.Com.-I
Subject- MATHEMATICS
Paper-ELEMENTS OF BUSINESS MATHEMATICS

August, 2023 **1st Week** **1 Aug - 5 Aug**	**SET THEORY:** **Representation of sets:Tabular or roster form,Set builder form,** **finite and infinite sets.Examples**
6 Aug, 2023	**Sunday**
2nd Week **7 Aug - 12 Aug**	**Venn Diagrams;Union and intersection of sets,Difference and symmetric difference of sets.Demorgan's laws,Examples**
13 Aug, 2023	**Sunday**
3rd Week **14 Aug-19 Aug**	**Practical Application of sets,Examples** **Student problems**
15 Aug, 2023 **20 Aug, 2023**	**Independence Day** **Sunday**
4th Week **21 Aug - 26 Aug**	**Class test &Revision**
27 Aug, 2023	**Sunday**
5th Week **28 Aug - 31Aug**	**Logical Statements and Truth Tables:** **Truth Table,Simple and compound statements** **Logical Connectives:** **Conjunction &Disjunction,Negation** **Examples**
30 Aug, 2023	**Raksha Bandhan**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher –Ms. MEENU KALRA
Class- B.Com.-I
Subject- MATHEMATICS
Paper- ELEMENTS OF BUSINESS MATHEMATICS

September, 2023 **1st Week** **1 Sept - 2 Sept**	**Student Problems** **Tautologies,Contradiction,Logical Equivalence** **Examples**
3 Sept, 2023	**Sunday**
2nd Week **4 Sept - 9 Sept**	**Logarithms:Product formula,Quotient formula,Power formula,Examples**
5 Sept, 2023 **7 Sept, 2023** **10 Sept, 2023**	**Talent Show** **Janmastami** **Sunday**
3rd Week **11 Sept-16 Sept**	**Rules to find characteristics and mantissa,Logarithms& Anti-logarithms,Examples**
17 Sept, 2023	**Sunday**
4th Week **18 Sept - 22 Sept**	**Arithmetic and geometric progression:** **Sequences,General term,Arithmetic Progression(A.P.)** **Examples**
23 Sept, 2023 **24 Sept, 2023** **25 Sept, 2023**	**Shaeedi Divas/Haryana War Heroes' Martyrdom Day** **Sunday** **Annual Prize Distribution Function**
5th Week **26 Sept - 30 Sept**	**Geometric progression,Its general term** **Examples**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Ms. MEENU KALRA
Class- B.Com.-I
Subject- MATHEMATICS
Paper- ELEMENTS OF BUSINESS MATHEMATICS

October, 2023 **1 Oct , 2023** **2 Oct, 2023**	 **Sunday** **Mahatama Gandhi Jayanti**
1st Week **3 Oct – 7 Oct**	**Sum of first n terms of G.P.** **Examples** **Sum of a G.P. upto infinity** **Examples**
8 Oct, 2023	**Sunday**
2nd Week **9 Oct - 14 Oct**	**Application of A.P. and G.P. To Business Problems** **Examples**
15 Oct, 2023	**Maharaja Agrasen Jayanti, Sunday**
3rd Week **16 Oct - 21 Oct**	**Algebra of matrices:** **Matrices & their types,Related examples** **Basic Operation on matrices.(Addition,Subtraction,Scalar multiplication,Negative of matrices)**
22 Oct, 2023	**Sunday**
4th Week **23 Oct – 27 Oct**	**Examples**
24 Oct, 2023 **28 Oct, 2023** **29 Oct, 2023**	**Dussehra** **Maharishi Valmiki Jayanti** **Sunday**
5th Week **30 Oct – 31 Oct**	**Multiplication of matrices,Examples** **Symmetric and Skew Symmetric matrices;** **Related Examples**
25 Oct – 4 Nov, 2023	**Sessional Exams**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher –Ms. MEENU KALRA
Class- B.Com.-I
Subject-MATHEMATICS
Paper-ELEMENTS OF BUSINESS MATHEMATICS

November, 2023 **1st Week** **1 Nov, 2023** **5 Nov, 2023**	**Haryana Day** **Sunday**
2nd Week **6 Nov – 9 Nov**	**Determinants:** **Minor &Cofactors;Singular and Non-Singular matrices;** **Properties of Determinants,Its application in finding the area of a triangle** **Adjoint & Inverse of a matrix** **Solution of system of linear equations using determinants,Solution of system of linear equations using matrices.Examples.**
10 Nov - 16 Nov , 2023	**Diwali Break**
3rd Week **17 Nov - 18 Nov**	**Compound Interest,Examples** **Continuous compounding of interest,Examples** **Student Problems** **Class test & Revision**
19 Nov, 2023	**Sunday**
4th Week **20 Nov - 24 Nov**	**Annuities:** **Annuity Immediate & Annuity due;Examples** **Present value of an annuity.Examples** **Practical application of annuity.** **REVISION**
5th Week **25 Nov, 2023** **Onwards**	**University Examination**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Mrs. MEENU KALRA
Class- B.B.A.-I
Subject- MATHEMATICS
Paper- ELEMENTS OF BUSINESS MATHEMATICS

August, 2023 **1st Week** **1 Aug - 5 Aug**	**Sets,Notation $ their representation,Definitions** **Examples**
6 Aug, 2023	**Sunday**
2nd Week **7 Aug - 12 Aug**	**Venn Diagrams,Union & Intersection of sets,Difference of sets** **Questions related to sets**
13 Aug, 2023	**Sunday**
3rd Week **14 Aug-19 Aug**	**Symmetric difference of sets,Demorgan's laws** **Examples**
15 Aug, 2023 **20 Aug, 2023**	**Independence Day** **Sunday**
4th Week **21 Aug - 26 Aug**	**Practical Applications of set operations** **Examples**
27 Aug, 2023	**Sunday**
5th Week **28 Aug - 31Aug**	**Quadratic Equations,Roots of an equation,Solution of complete quadratic equation.Examples**
30 Aug, 2023	**Raksha Bandhan**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Mrs. MEENU KALRA
Class- B.B.A.-I
Subject- MATHEMATICS
Paper- ELEMENTS OF BUSINESS MATHEMATICS

September, 2023 **1st Week** **1 Sept - 2 Sept**	**Solving a quadratic equation by completing the square method.** **Examples**
3 Sept, 2023	**Sunday**
2nd Week **4 Sept - 9 Sept**	**Solution of a quadratic equation by using quadratic formula** **Examples** **Student's problems & their solutions.**
5 Sept, 2023 **7 Sept, 2023** **10 Sept, 2023**	**Talent Show** **Janmastami** **Sunday**
3rd Week **11 Sept-16 Sept**	**Equations Reducible To Quadratics** **Examples** **Nature of roots of a quadratic equation** **Examples**
17 Sept, 2023	**Sunday**
4th Week **18 Sept - 22 Sept**	**Relation between roots and coefficient of the quadratic equation** **Examples**
23 Sept, 2023 **24 Sept, 2023** **25 Sept, 2023**	**Shaeedi Divas/Haryana War Heroes' Martyrdom Day** **Sunday** **Annual Prize Distribution Function**
5th Week **26 Sept - 30 Sept**	**Formulation and solution of word problems involving quadratic equations** **Examples**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Mrs. MEENU KALRA
Class-B.B.A.-I
Subject-MATHEMATICS
Paper-ELEMENTS OF BUSINESS MATHEMATICS

October, 2023 **1 Oct , 2023** **2 Oct, 2023**	 **Sunday** **Mahatama Gandhi Jayanti**
1st Week **3 Oct – 7 Oct**	**Binomial theorem for any positive integral index** **Examples**
8 Oct, 2023	**Sunday**
2nd Week **9 Oct - 14 Oct**	**General term in a binomial expansion,Middle term in a binomial expansion.Examples** **Function &Limits.** **Examples** **Exponential and logarithmic limits,Finite & Infinite limits** **Examples**
15 Oct, 2023	**Maharaja Agrasen Jayanti, Sunday**
3rd Week **16 Oct - 21 Oct**	**Left and right hand limits** **Continuity of function** **Examples**
22 Oct, 2023	**Sunday**
4th Week **23 Oct – 27 Oct**	**Matrix:Its definitions and examples.Basic operations on matrices,Addition,Subtraction of matrices** **Multiplication of matrices** **Examples**
24 Oct, 2023 **28 Oct, 2023** **29 Oct, 2023**	**Dussehra** **Maharishi Valmiki Jayanti** **Sunday**
5th Week **30 Oct – 31 Oct**	**Transpose of matrix,Symmetric and Skew-symmetric matrices** **Examples** **Determinant of a square matrix of order two** **Adjoint of a matrix,Inverse of a square matrix** **Examples**
25 Oct – 4 Nov, 2023	**Sessional Exams**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher –Mrs. MEENU KALRA
Class- B.B.A.-I
Subject- MATHEMATICS
Paper-ELEMENTS OF BUSINESS MATHEMATICS

November, 2023 **1st Week** **1 Nov, 2023** **5 Nov, 2023**	**Haryana Day** **Sunday**
2nd Week **6 Nov – 9 Nov**	**Solution of system of linear equations using Cramer's rule & using matrices** **Examples**
10 Nov - 16 Nov , 2023	**Diwali Break**
3rd Week **17 Nov - 18 Nov**	**Student's problems** **Class test &Revision**
19 Nov, 2023	**Sunday**
4th Week **20 Nov - 24 Nov**	**REVISION**
5th Week **25 Nov, 2023** **Onwards**	**University Examination**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Ms. Meenu Kalra
Class- B.C.A.-I(Sem –I)
Subject- Mathematics
Paper- Mathematical Foundations for Computer Science

August, 2023 **1st Week** **1 Aug - 5 Aug**	**Sets and their representation,Empty Set,Finite Sets and infinite sets** **Examples** **Subsets,Equal Sets,Power Set,Universal Sets** **Examples**
6 Aug, 2023	**Sunday**
2nd Week **7 Aug - 12 Aug**	**Union and Intersection of sets,Difference of two sets,complement of a set** **Venn diagram,Demorgan's Law& their application** **Questions**
13 Aug, 2023	**Sunday**
3rd Week **14 Aug-19 Aug**	**Introduction to matrices and their types,Operation on matrices ,Symmetric & Skew-Symmetric matrices** **Examples**
15 Aug, 2023 **20 Aug, 2023**	**Independence Day** **Sunday**
4th Week **21 Aug - 26 Aug**	**Minor,Cofactors.Determinant of a square matrix,** **Examples** **Adjoint and inverse of a square matrix.** **Examples**
27 Aug, 2023	**Sunday**
5th Week **28 Aug - 31Aug**	**Solutions of a system of linear equations upto order 3 using cramer's rule** **QUESTIONS**
30 Aug, 2023	**Raksha Bandhan**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Ms. Meenu Kalra
Class- B.C.A.-I(Sem-I)
Subject-Mathematics
Paper- Mathematical Foundations for Computer Science

September, 2023 **1st Week** **1 Sept - 2 Sept**	**Solution of system of linear equations using matrices** **QUESTIONS**
3 Sept, 2023	**Sunday**
2nd Week **4 Sept - 9 Sept**	**Examples related to matrices**
5 Sept, 2023 **7 Sept, 2023** **10 Sept, 2023**	**Talent Show** **Janmastami** **Sunday**
3rd Week **11 Sept-16 Sept**	**Revision & Test**
17 Sept, 2023	**Sunday**
4th Week **18 Sept - 22 Sept**	**Problems related to matrices**
23 Sept, 2023 **24 Sept, 2023** **25 Sept, 2023**	**Shaeedi Divas/Haryana War Heroes' Martyrdom Day** **Sunday** **Annual Prize Distribution Function**
5th Week **26 Sept - 30 Sept**	**Quardtic Equations,Solution of quardtic equation using elimination $ Subsitution method.** **Examples**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher –Ms. Meenu Kalra
Class-B.C.A.-I(SEM-I)
Subject- Mathematics
Paper- Mathematical Foundations for computer science

October, 2023 **1 Oct , 2023** **2 Oct, 2023**	 **Sunday** **Mahatama Gandhi Jayanti**
1st Week **3 Oct – 7 Oct**	**Solution of Quardtic equation by completing the square method.** **Examples**
8 Oct, 2023	**Sunday**
2nd Week **9 Oct - 14 Oct**	**Solution of Quardtic equation by using quadratic formula(DISCRIMINANT METHOD)** **Examples**
15 Oct, 2023	**Maharaja Agrasen Jayanti, Sunday**
3rd Week **16 Oct - 21 Oct**	**Equation related to Quadratics** **Examples** **Problems related to quadratic equations.**
22 Oct, 2023	**Sunday**
4th Week **23 Oct – 27 Oct**	**Formulation and Solution of word problems related to quadratic equations.** **Examples**
24 Oct, 2023 **28 Oct, 2023** **29 Oct, 2023**	**Dussehra** **Maharishi Valmiki Jayanti** **Sunday**
5th Week **30 Oct – 31 Oct**	**Introdution to Sequence and series,** **Arithmetic progession** **Problems related to A.P.Geometrical Progression** **Examples**
25 Oct – 4 Nov, 2023	**Sessional Exams**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher –Ms. Meenu Kalra
Class-B.C.A.-I(SEM-I)
Subject- MATHEMATICS
Paper- Mathematical Foundations for Computer Science

November, 2023 **1st Week** **1 Nov, 2023** **5 Nov, 2023**	**Haryana Day** **Sunday**
2nd Week **6 Nov – 9 Nov**	**Differentiation ,** **Differentiation of product of two functions** **Differentiation of quotient of two functions** **Chain rule** **Questions**
10 Nov - 16 Nov , 2023	**Diwali Break**
3rd Week **17 Nov - 18 Nov**	**Differentiation of trignometrical functions** **Questions** **Differentiation of Logarithmic and exponential functions** **Questions**
19 Nov, 2023	**Sunday**
4th Week **20 Nov - 24 Nov**	**Differentiation of Implict & Parametric functions** **Questions** **REVISION**
5th Week **25 Nov, 2023** **Onwards**	**University Examination**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Dr.Manju Sharma/Mrs. Anita
Class- BBA 1st Year
Subject- Environmental Studies (VAC)
Paper- Environmental Studies

August, 2023 **1st Week** **1 Aug - 5 Aug**	**Introduction to Environmental Studies: Definition and Concept of Environment, Multidisciplinary Nature, Scope, importance of Environmental Studies.**
6 Aug, 2023	**Sunday**
2nd Week **7 Aug - 12 Aug**	**Concept of Sustainability and Sustainable Development, Need for Public Awareness, Institutions of Environment (in India).**
13 Aug, 2023	**Sunday**
3rd Week **14 Aug-19 Aug**	**Ecosystem: ecology, characteristic, classification, components of an ecosystem. Energy flow in the ecosystem.**
15 Aug, 2023 **20 Aug, 2023**	**Independence Day** **Sunday**
4th Week **21 Aug - 26 Aug**	**Function of an ecosystem, Food Chain, Food Web, Ecological Pyramids, Ecological Succession,**
27 Aug, 2023	**Sunday**
5th Week **28 Aug - 31Aug**	**Major Types of Ecosystems, Natural Resources, Land Resources.**
30 Aug, 2023	**Raksha Bandhan**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Dr.Manju Sharma/Mrs. Anita
Class- BBA 1st Year
Subject- Environmental Studies (VAC)
Paper- Environmental Studies

September, 2023 **1st Week** **1 Sept - 2 Sept**	**Forest Resources, Dams, Mining, Water Resources and their Uses, Flood.**
3 Sept, 2023	**Sunday**
2nd Week **4 Sept - 9 Sept**	**Drought, Sustainable Water Management, Water Conflicts.**
5 Sept, 2023 **7 Sept, 2023** **10 Sept, 2023**	**Talent Show** **Janmastami** **Sunday**
3rd Week **11 Sept-16 Sept**	**Energy Resources and its Types, Biodiversity and its Conservation: definitions, levels of Biodiversity.**
17 Sept, 2023	**Sunday**
4th Week **18 Sept - 22 Sept**	**Functions of Biodiversity, value of Biodiversity, Threats to Biodiversity.**
23 Sept, 2023 **24 Sept, 2023** **25 Sept, 2023**	**Shaeedi Divas/Haryana War Heroes' Martyrdom Day** **Sunday** **Annual Prize Distribution Function**
5th Week **26 Sept - 30 Sept**	**Biological Invasion, Bio-Geographical Zones if India, Conservation of Biodiversity.**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Dr.Manju Sharma/Mrs. Anita
Class- BBA 1st Year
Subject- Environmental Studies (VAC)
Paper- Environmental Studies

October, 2023 **1 Oct , 2023** **2 Oct, 2023**	 **Sunday** **Mahatama Gandhi Jayanti**
1st Week **3 Oct – 7 Oct**	**Environmental Pollution (air, water, thermal, soil, noise, marine and nuclear).**
8 Oct, 2023	**Sunday**
2nd Week **9 Oct - 14 Oct**	**Environmental Policies and Practices: Climate, Global Warming, Acid Rain, Ozone Layer Depletion and their impacts on human communities.**
15 Oct, 2023	**Maharaja Agrasen Jayanti, Sunday**
3rd Week **16 Oct - 21 Oct**	**Environmental legislation and Law, International Agreements.**
22 Oct, 2023	**Sunday**
4th Week **23 Oct – 27 Oct**	**The Convention on Biodiversity, Nature reserves, Tribal Populations and Rights.**
24 Oct, 2023 **28 Oct, 2023** **29 Oct, 2023**	**Dussehra** **Maharishi Valmiki Jayanti** **Sunday**
5th Week **30 Oct – 31 Oct**	**Nuclear Accidents and Holocaust, Waste Land Reclamation.**
25 Oct – 4 Nov, 2023	**Sessional Exams**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Dr.Manju Sharma/Mrs. Anita
Class- BBA 1st Year
Subject- Environmental Studies (VAC)
Paper- Environmental Studies

November, 2023 **1st Week** **1 Nov, 2023** **5 Nov, 2023**	**Haryana Day** **Sunday**
2nd Week **6 Nov – 9 Nov**	**Human Population And Disaster Management.**
10 Nov - 16 Nov , 2023	**Diwali Break**
3rd Week **17 Nov - 18 Nov**	**Human Rights, Value Education, HIV, Role of it in Environment, Social Issues.**
19 Nov, 2023	**Sunday**
4th Week **20 Nov - 24 Nov**	**Environmental Movement and Ethics, Drugs and their Effects and revision.**
5th Week **25 Nov, 2023** **Onwards**	**University Examination**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher –Mrs. Manju Sharma/ Mrs. Anita
Class- B.Sc. 2nd Year
Subject- Advanced Calculus
Paper- BM - 231

August, 2023 **1st Week** **1 Aug - 5 Aug**	**Continuity, Sequential continuity. Properties of continuous functions with examples.**
6 Aug, 2023	**Sunday**
2nd Week **7 Aug - 12 Aug**	**Uniform continuity, Chain rule of differentiability, Mean value theorems; Roll's theorem.**
13 Aug, 2023	**Sunday**
3rd Week **14 Aug-19 Aug**	**Lagrange's mean value theorem and their geometrical interpretations, Taylor's theorem with various form of remainders.**
15 Aug, 2023 **20 Aug, 2023**	**Independence Day** **Sunday**
4th Week **21 Aug - 26 Aug**	**Darboux intermediate value theorem for derivatives, Indeterminate forms.**
27 Aug, 2023	**Sunday**
5th Week **28 Aug - 31Aug**	**Indeterminate forms with examples. Limit and continuity of real valued functions of two variables.**
30 Aug, 2023	**Raksha Bandhan**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Mrs. Manju Sharma/ Mrs. Anita
Class- B.Sc. 2nd Year
Subject- Advanced Calculus
Paper- BM - 231

September, 2023 **1st Week** **1 Sept - 2 Sept**	**Partial differentiation, Total differentials; Composite functions and implicit functions.**
3 Sept, 2023	**Sunday**
2nd Week **4 Sept - 9 Sept**	**Change of variables, Homogeneous functions and Euler's theorem on homogeneous function.**
5 Sept, 2023 **7 Sept, 2023** **10 Sept, 2023**	**Talent Show** **Janmastami** **Sunday**
3rd Week **11 Sept-16 Sept**	**Taylor's theorem for functions of two variables. Differentiability of real valued functions of two variables.**
17 Sept, 2023	**Sunday**
4th Week **18 Sept - 22 Sept**	**Schwarz and Young's theorem, Implicit function theorem with examples.**
23 Sept, 2023 **24 Sept, 2023** **25 Sept, 2023**	**Shaeedi Divas/Haryana War Heroes' Martyrdom Day** **Sunday** **Annual Prize Distribution Function**
5th Week **26 Sept - 30 Sept**	**Maxima, Minima and Saddle points of two variables with examples.**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Mrs. Manju Sharma/ Mrs. Anita
Class- B.Sc. 2nd Year
Subject- Advanced Calculus
Paper- BM - 231

October, 2023 **1 Oct , 2023** **2 Oct, 2023**	 **Sunday** **Mahatama Gandhi Jayanti**
1st Week **3 Oct – 7 Oct**	**Lagrange's method of multipliers with examples.**
8 Oct, 2023	**Sunday**
2nd Week **9 Oct - 14 Oct**	**Curves: Tangents, Principal normals with examples.**
15 Oct, 2023	**Maharaja Agrasen Jayanti, Sunday**
3rd Week **16 Oct - 21 Oct**	**Binormals, Serret - Frenet formulae with examples.**
22 Oct, 2023	**Sunday**
4th Week **23 Oct – 27 Oct**	**Locus of the centre of curvature Spherical curvature with examples, Locus of centre of spherical curvature.**
24 Oct, 2023 **28 Oct, 2023** **29 Oct, 2023**	**Dussehra** **Maharishi Valmiki Jayanti** **Sunday**
5th Week **30 Oct – 31 Oct**	**Involutes with examples and Evolutes with examples.**
25 Oct – 4 Nov, 2023	**Sessional Exams**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Mrs. Manju Sharma/ Mrs. Anita
Class- B.Sc. 2nd Year
Subject- Advanced Calculus
Paper- BM - 231

November, 2023 1st Week 1 Nov, 2023 5 Nov, 2023	Haryana Day Sunday
2nd Week 6 Nov – 9 Nov	Bertrand curves, Surface: Tangent planes, one parameter family of surfaces, Envelopes.
10 Nov - 16 Nov , 2023	Diwali Break
3rd Week 17 Nov - 18 Nov	Revision of syllabus.
19 Nov, 2023	Sunday
4th Week 20 Nov - 24 Nov	Revision of syllabus.
5th Week 25 Nov, 2023 Onwards	University Examination

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Dr. Shweta Dhawan
Class- B.A/B.Sc (II)
Subject- Mathematics
Paper- Partial Differential Equations

August, 2023 1st Week 1 Aug - 5 Aug	Interaction With students
	Discuss Programme outcomes and Course outcomes
	BASIC ABOUT DIFFERENTIAL EQUATION
6 Aug, 2023	Sunday
2nd Week 7 Aug - 12 Aug	BASIC ABOUT DIFFERENTIAL EQUATION
	BASIC ABOUT DIFFERENTIAL EQUATION
	PARTIAL DIFFERENTIAL EQUATION
	TYPES OF DIFFERENTIAL EQUATION
	SOME IMPORTANT RESULTS AND FORMULAE
13 Aug, 2023	Sunday
3rd Week 14 Aug-19 Aug	ORDER AND DEGREE
	LINEAR AND NON LINEAR PARTIAL DIFFERENTIAL EQUATION OF FIRST ORDER
	COMPLETE SOLUTION
	SINGULAR SOLUTION, GENERAL SOLUTION
	CONTINUE
15 Aug, 2023 20 Aug, 2023	Independence Day Sunday
4th Week 21 Aug - 26 Aug	EXAMPLES
	EXAMPLES
	SOLUTION OF LAGRANGES LINEAR EQUATION
	EXAMPLES
	CONTINUE
27 Aug, 2023	Sunday
5th Week 28 Aug - 31Aug	CHARPIT GENERAL METHOD OF SOLUTION
	EXAMPLES
	EXAMPLES

	COMPATIBLE SYSTEM OF FIRST ORDER
	EXAMPLES
30 Aug, 2023	**Raksha Bandhan**
September, 2023 **1st Week** **1 Sept - 2 Sept**	**JACOBIS METHOD**
	EXAMPLES
	EXAMPLES
	DOUBTS
3 Sept, 2023	**Sunday**
2nd Week **4 Sept - 9 Sept**	**LINEAR PARTIAL DIFFERENTIAL EQUATION OF SECOND AND HIGHER ORDER**
	EXAMPLES
	EXAMPLES
	EXAMPLES
	LINEAR HOMOGENOUS EQUATION
	EXAMPLES
5 Sept, 2023 **7 Sept, 2023** **10 Sept, 2023**	**Talent Show** **Janmastami** **Sunday**
3rd Week **11 Sept-16 Sept**	**NON LINEAR HOMOGENOUS EQUATION**
	EXAMPLES
	EXAMPLES
	EXAMPLES
	PARTIAL DIFFERENTIAL EQUATION WITH CONSTANT COEFFICIENTS
	EXAMPLES
17 Sept, 2023	**Sunday**
4th Week **18 Sept - 22 Sept**	**EXAMPLES**
	EXAMPLES
	EXAMPLES
	EQUATION REDUCIBLE WITH CONSTANT COEFFICIENTS
	COMPLIMENTARY EQUATION
	EXAMPLES
23 Sept, 2023 **24 Sept, 2023** **25 Sept, 2023**	**Shaeedi Divas/Haryana War Heroes' Martyrdom Day** **Sunday** **Annual Prize Distribution Function**
5th Week **26 Sept - 30 Sept**	**EXAMPLES**
	PARTICULAR INTEGRALS
	EXAMPLES

	EXAMPLES
	EXAMPLES
	EXAMPLES
October, 2023 **1 Oct , 2023** **2 Oct, 2023**	 **Sunday** **Mahatama Gandhi Jayanti**
1st Week **3 Oct – 7 Oct**	**EQUATION REDUCIBLE TO LINEAR EQUATION WITH CONSTANT COEFFICIENTS**
	EXAMPLES
	EXAMPLES
	DOUBTS
8 Oct, 2023	**Sunday**
2nd Week **9 Oct - 14 Oct**	**CLASSIFICATION OF LINEAR PARTIAL DIFFERENTIAL EQUATION OF SECOND**
	CONTINUE
	EXAMPLES
	EXAMPLES
	EXAMPLES
	HYPERBOLIC EQUATION
15 Oct, 2023	**Maharaja Agrasen Jayanti, Sunday**
3rd Week **16 Oct - 21 Oct**	**EXAMPLES**
	EXAMPLES
	EXAMPLES
	PARABOLIC EQUATION
	EXAMPLES
	Elliptic equations and Examples
22 Oct, 2023	**Sunday**
4th Week **23 Oct – 27 Oct**	**Revision**
24 Oct, 2023 **28 Oct, 2023** **29 Oct, 2023**	**Dussehra** **Maharishi Valmiki Jayanti** **Sunday**
5th Week **30 Oct – 31 Oct**	**Revision**
25 Oct – 4 Nov, 2023	**Sessionals**
November, 2023 **1st Week** **1 Nov, 2023** **5 Nov, 2023**	 **Haryana Day** **Sunday**

2nd Week **6 Nov – 9 Nov**	**REDUCTION OF SECOND ORDER LINEAR P.D.E INTO CANONICAL FORM and related examples , SOLUTION OF LINEAR HYPERBOLIC EQUATION, MONGES METHOD and related examples, CAUCHY PROBLEM FOR SECOND ORDER and related Examples**
10 Nov - 16 Nov , 2023	**Diwali Break**
3rd Week **17 Nov - 18 Nov**	**WAVE EQUATION IN ONEAND TWO DIMENSIONS , related examples, METHOD OF SEPERATION OF VARIABLES OF LAPLACE EQUATION, related examples, HEAT EQUATION IN ONE AND TWO DIMENSIONS, related examples**
19 Nov, 2023	**Sunday**
4th Week **20 Nov - 24 Nov**	**WAVE EQUATION IN ONEAND TWO DIMENSIONS , related examples, METHOD OF SEPERATION OF VARIABLES OF LAPLACE EQUATION, related examples, HEAT EQUATION IN ONE AND TWO DIMENSIONS, related examples**
5th Week **25 Nov, 2023 Onwards**	**University Examination**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher –Ms. Meenu Kalra
Class- B.Sc./B.A.-II(SEM-III)
Subject- MATHEMATICS
Paper- STATICS

August, 2023 **1st Week** **1 Aug - 5 Aug**	**Forces acting at a point** **Resultant and its components,Magnitude and direction of its resultant** **Resolved parts of a force** **Questions** **Triangle law of vectors** **Questions**
6 Aug, 2023	**Sunday**
2nd Week **7 Aug - 12 Aug**	**Lamda mew theorem** **Lami's theorem** **Questions based on Lami's Theorem**
13 Aug, 2023	**Sunday**
3rd Week **14 Aug-19 Aug**	**Conditions of equilibrium of concurrent forces** **Revision**
15 Aug, 2023 **20 Aug, 2023**	**Independence Day** **Sunday**
4th Week **21 Aug - 26 Aug**	**Equilibrium of bodies placed on a smooth inclined planes** **Parallel forces** **Resultant of two like and unlike parallel forces acting on a rigid body**
27 Aug, 2023	**Sunday**
5th Week **28 Aug - 31Aug**	**Questions.**
30 Aug, 2023	**Raksha Bandhan**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher –Ms.Meenu Kalra
Class- B.Sc./B.A.-II(SEM-III)
Subject- MATHEMATICS
Paper-STATICS

September, 2023 **1st Week** **1 Sept - 2 Sept**	**Continued….** **Analogue of lami's theorem** **Questions based on analogue of lami's theorem** **Continued..**
3 Sept, 2023	**Sunday**
2nd Week **4 Sept - 9 Sept**	**. Introduction to moments** **Definition of moments** **Varignon's Theorem-when the forces acting at a point** **When the forces are parallel** **Moment of a force about a line** **Continued…**
5 Sept, 2023 **7 Sept, 2023** **10 Sept, 2023**	**Talent Show** **Janmastami** **Sunday**
3rd Week **11 Sept-16 Sept**	**Questions based on moments.** **Introduction to couples** **Moment of a couple,Sign of a moment of a couple** **Continued.**
17 Sept, 2023	**Sunday**
4th Week **18 Sept - 22 Sept**	**Equilibrium of two couples** **Continued** **Questions.**
23 Sept, 2023 **24 Sept, 2023** **25 Sept, 2023**	**Shaeedi Divas/Haryana War Heroes' Martyrdom Day** **Sunday** **Annual Prize Distribution Function**
5th Week **26 Sept - 30 Sept**	**Analytical conditions of equilibrium of coplanar forces** **Equilibrium of three forces acting at a point** **Questions** **Continued**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Ms.Meenu Kalra
Class-B.Sc./B.A.-II(Sem-III)
Subject-MATHEMATICS
Paper- STATICS

October, 2023 **1 Oct , 2023** **2 Oct, 2023**	 **Sunday** **Mahatama Gandhi Jayanti**
1st Week **3 Oct – 7 Oct**	**Trignometrical Theorem.** **Virtual work** **Principle of virtual work** **Introduction to wrenches** **Resultant wrench of two given wrenches** **Find the locus of the central axis,if pitches are given**
8 Oct, 2023	**Sunday Null lines and null planes** **Find the null point of the plane for the system of forces** **Find the condition that straight line may be a null line** **Stable,Unstable and neutral equilibrium.** **Conditions of stability of equilibrium**
2nd Week **9 Oct - 14 Oct**	**Forces which may be omitted in forming the equation of virtual work.** **Questions.** **Continued.**
15 Oct, 2023	**Maharaja Agrasen Jayanti, Sunday**
3rd Week **16 Oct - 21 Oct**	**Forces in three dimensions** **Prallelopied law of forces** **Questions** **Axis of couple**
22 Oct, 2023	**Sunday**
4th Week **23 Oct – 27 Oct**	**Questions. Conditions of equilibrium of a rigid body** **Questions** **Continued** **Poinsot's central axis** **Questions**
24 Oct, 2023 **28 Oct, 2023** **29 Oct, 2023**	**Dussehra** **Maharishi Valmiki Jayanti** **Sunday**
5th Week **30 Oct – 31 Oct**	**Condition in order that a general system of forces in space reduce to a single** **Force.** **Equation of central axis** **Conditions of equilibrium of any no. of coplanar forces**
25 Oct – 4 Nov, 2023	**Sessional Exams**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher –Ms.Meenu Kalra
Class-B.Sc./B.A.-II(SEM-III)
Subject- MATHEMATICS
Paper- STATICS

November, 2023 1st Week 1 Nov, 2023 5 Nov, 2023	Haryana Day Sunday
2nd Week 6 Nov – 9 Nov	Friction:Introduction Force of friction,coefficient of friction Angle and cone of friction Problems on equilibrium of rods and ladders Continued
10 Nov - 16 Nov , 2023	Diwali Break
3rd Week 17 Nov - 18 Nov	Centre of gravity: C.G. of a uniform rods,C.G. of uniform lamina in form of a parallelogram C.G. of a thin uniform triangular lamina. C.G. of right circular solid cone
19 Nov, 2023	Sunday
4th Week 20 Nov - 24 Nov	Test & Revision
5th Week 25 Nov, 2023 Onwards	University Examination

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Ms. Silky puri
Class- Bca-3rd sem
Subject- Mathematics
Paper- Computer oriented numerical methods

August, 2023 **1st Week** **1 Aug - 5 Aug**	**Iterative Method,Bisection Method** **False Position** **Questions** **Newton-Raphson Method** **Questions.**
6 Aug, 2023	**Sunday**
2nd Week **7 Aug - 12 Aug**	**Iteration Method** **Discussion of convergence** **Questions** **Questions** **Students problems.**
13 Aug, 2023	**Sunday**
3rd Week **14 Aug-19 Aug**	**Bairstow's method** **Continued** **Computer arithmetic:Floating point representation of numbers** **Arithmetic operations with normalized floating point numbers** **Continued.**
15 Aug, 2023 **20 Aug, 2023**	**Independence Day** **Sunday**
4th Week **21 Aug - 26 Aug**	**Consequences of floating point numbers** **Significant figures** **Error in number representation inherent error,truncation error** **Absolute error** **Relative error.** **Students Problems.**
27 Aug, 2023	**Sunday**
5th Week **28 Aug - 31Aug**	**Percentage error** **Roundoff error** **Questions** **Questions** **Continued.**
30 Aug, 2023	**Raksha Bandhan**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Ms. Silky puri
Class- Bca-3rd sem
Subject- Mathematics
Paper- Computer oriented numerical methods

September, 2023 **1st Week** **1 Sept - 2 Sept**	**Gauss Elimination Method** **Questions** **Continued** **Pivoting** **Students Problems.**
3 Sept, 2023	**Sunday**
2nd Week **4 Sept - 9 Sept**	**Ill conditioned equations** **Refinement of solutions,Gauss seidal iterative method** **Questions** **Continued.**
5 Sept, 2023 **7 Sept, 2023** **10 Sept, 2023**	**Talent Show** **Janmastami** **Sunday**
3rd Week **11 Sept-16 Sept**	**Gauss elimination methods** **Pivoting** **Ill-conditioned equations** **Questions.**
17 Sept, 2023	**Sunday**
4th Week **18 Sept - 22 Sept**	**Euler's Method** **Euler modified method** **Taylor-series method** **Questions** **Runga- Kutta Methods** **Questions.**
23 Sept, 2023 **24 Sept, 2023** **25 Sept, 2023**	**Shaeedi Divas/Haryana War Heroes' Martyrdom Day** **Sunday** **Annual Prize Distribution Function**
5th Week **26 Sept - 30 Sept**	**Predictor Corrector Methods** **Questions** **Interpolation and Approximations** **Polynomial interpolation**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Ms. Silky puri
Class- Bca-3rd sem
Subject- Mathematics
Paper- Computer oriented numerical methods

October, 2023 **1 Oct , 2023** **2 Oct, 2023**	 **Sunday** **Mahatama Gandhi Jayanti**
1st Week **3 Oct – 7 Oct**	**Newton Lagranges Methods** **Difference tables** **Questions.**
8 Oct, 2023	**Sunday**
2nd Week **9 Oct - 14 Oct**	**Approximation of functions by Taylor Series** **Questions** **Chebyshev polynomial:First kind,Second kind and their relations** **Orthogonal Properties** **Questions.**
15 Oct, 2023	**Maharaja Agrasen Jayanti, Sunday**
3rd Week **16 Oct - 21 Oct**	**Numerical Differentiation and integration** **Questions** **Differential equations** **Questions** **Based on polynomials fit,pitfalls in differentiation** **Questions.**
22 Oct, 2023	**Sunday**
4th Week **23 Oct – 27 Oct**	**Student Problems** **Class test** **Trapezoidal Rule** **Questions** **Questions** **Continued.**
24 Oct, 2023 **28 Oct, 2023** **29 Oct, 2023**	**Dussehra** **Maharishi Valmiki Jayanti** **Sunday**
5th Week **30 Oct – 31 Oct**	**Questions**
25 Oct – 4 Nov, 2023	**Sunday**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher –Ms. Silky puri
Class- Bca-3rd sem
Subject- Mathematics
Paper- Computer oriented numerical methods

November, 2023 **1st Week** **1 Nov, 2023** **5 Nov, 2023**	**Haryana Day** **Sunday**
2nd Week **6 Nov – 9 Nov**	**Simpsons Rules** **Questions.**
10 Nov - 16 Nov , 2023	**Diwali Break**
3rd Week **17 Nov - 18 Nov**	**Gaussian Quardature** **Questions** **Questions.**
19 Nov, 2023	**Sunday**
4th Week **20 Nov - 24 Nov**	**Class Test** **Student Problems** **Topic wise Problems for students** **Class test** **Revision.**
5th Week **25 Nov, 2023** **Onwards**	**University Examination**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher –Mrs. Manju Sharma/ Mrs. Anita
Class- B.Sc. 3rd Year
Subject- Real Analysis
Paper- BM - 351

August, 2023 **1st Week** **1 Aug - 5 Aug**	**Riemann integral, Integrability of continuous and monotonic functions.**
6 Aug, 2023	**Sunday**
2nd Week **7 Aug - 12 Aug**	**The fundamental theorem of integral calculus with examples.**
13 Aug, 2023	**Sunday**
3rd Week **14 Aug-19 Aug**	**Mean value theorems of integral calculus with examples.**
15 Aug, 2023 **20 Aug, 2023**	**Independence Day** **Sunday**
4th Week **21 Aug - 26 Aug**	**Improper integral and their convergence with examples.**
27 Aug, 2023	**Sunday**
5th Week **28 Aug - 31Aug**	**Comparison tests, Abel's test with examples.**
30 Aug, 2023	**Raksha Bandhan**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Mrs. Manju Sharma/ Mrs. Anita
Class- B.Sc. 3rd Year
Subject- Real Analysis
Paper- BM - 351

September, 2023 **1st Week** **1 Sept - 2 Sept**	**Dirichlet's test and Frullani's integral.**
3 Sept, 2023	**Sunday**
2nd Week **4 Sept - 9 Sept**	**Integral as a function of a parameter, Continuity.**
5 Sept, 2023 **7 Sept, 2023** **10 Sept, 2023**	**Talent Show** **Janmastami** **Sunday**
3rd Week **11 Sept-16 Sept**	**Differentiability and integrability of an integral of a function of a parameter.**
17 Sept, 2023	**Sunday**
4th Week **18 Sept - 22 Sept**	**Definition and examples of metric spaces.**
23 Sept, 2023 **24 Sept, 2023** **25 Sept, 2023**	**Shaeedi Divas/Haryana War Heroes' Martyrdom Day** **Sunday** **Annual Prize Distribution Function**
5th Week **26 Sept - 30 Sept**	**Examples of metric spaces, Neighbourhoods.**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Mrs. Manju Sharma/ Mrs. Anita
Class- B.Sc. 3rd Year
Subject- Real Analysis
Paper- BM - 351

October, 2023 **1 Oct , 2023** **2 Oct, 2023**	**Sunday** **Mahatama Gandhi Jayanti**
1st Week **3 Oct – 7 Oct**	**Limit points, interior points, open sets, Closed sets, Closure and interior.**
8 Oct, 2023	**Sunday**
2nd Week **9 Oct - 14 Oct**	**Boundary points, subspace of a metric space, equivalent metrics, Cauchy sequences.**
15 Oct, 2023	**Maharaja Agrasen Jayanti, Sunday**
3rd Week **16 Oct - 21 Oct**	**Completeness, Cantor's intersection theorem, Baire's category theorem, Contraction principle.**
22 Oct, 2023	**Sunday**
4th Week **23 Oct – 27 Oct**	**Continuous functions, uniform continuity, Compactness for metric spaces, Sequential compactness.**
24 Oct, 2023 **28 Oct, 2023** **29 Oct, 2023**	**Dussehra** **Maharishi Valmiki Jayanti** **Sunday**
5th Week **30 Oct – 31 Oct**	**Bolzano-Weierstrass property, Total boundedness, Finite intersection property.**
25 Oct – 4 Nov, 2023	**Sessional Exams**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Mrs. Manju Sharma/ Mrs. Anita
Class- B.Sc. 3rd Year
Subject- Real Analysis
Paper- BM - 351

November, 2023 **1st Week** **1 Nov, 2023** **5 Nov, 2023**	**Haryana Day** **Sunday**
2nd Week **6 Nov – 9 Nov**	**Continuity in relation with compactness, Components, Continuity in relation with connectedness.**
10 Nov - 16 Nov , 2023	**Diwali Break**
3rd Week **17 Nov - 18 Nov**	**Revision of syllabus.**
19 Nov, 2023	**Sunday**
4th Week **20 Nov - 24 Nov**	**Revision of syllabus.**
5th Week **25 Nov, 2023** **Onwards**	**University Examination**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Dr. Shweta Dhawan
Class- B.Sc. III
Subject- Mathematics
Paper- BM-352…Groups and Rings

August, 2023 **1st Week** **1 Aug - 5 Aug**	**Intraction With students** **Discuss Programme outcomes and Course outcomes.** **Binary operation, properties of binary operation, Definition of GROUP, SemiGroup, Finite and Infinite Group, Order of a Group , Examples based on Group, Examples continued.**
6 Aug, 2023	**Sunday**
2nd Week **7 Aug - 12 Aug**	**General properties of Groups, Cancellation Laws, Examples, Order of an element of a Group, Theorems based on order of an element of a Group , Theorems and Examples based on order of an element of a Group.**
13 Aug, 2023	**Sunday**
3rd Week **14 Aug-19 Aug**	**Complexes And subgroups of a Group,Definition of Subgroup,Theorems based on Subgroup , Theorems continued and Examples based on subgroup of a Group, Cyclic Groups,Some theorems on Cyclic Group, Examples based on Cyclic Group,Definition of a Coset of a Group, Definition of Right Coset and Left Coset of a Group,Theorems on Cosets , Examples based on Coset,Definition of index of a subgroup in a Group.**
15 Aug, 2023 **20 Aug, 2023**	**Independence Day** **Sunday**
4th Week **21 Aug - 26 Aug**	**Langrange's Theorem, Some other theorems based on order of an element, Test of Group, Subgroup and Cosets, Definition Of Normal Subgroup, Simple Subgroup, Some Theorems On Normal Subgroup , Definition of Quotient Group,Theorems on Quotient Groups, GROUP DISCUSSION ON Group, Subgroup, Coset, Normal Subgroup, Quotient Group.**
27 Aug, 2023	**Sunday**
5th Week **28 Aug - 31Aug**	**Homomorphisms Of Groups,Isomorphisms Of Groups, Isomorphic Groups, Some Theorems On Homomorphisms, Examples Based On Homomorphisms** **Definition Of Kernel Of Homomorphisms And Examples Based On Kernel Of Homomorphisms Of Groups , Fundamental Theorems Of Homomorphisms Of Groups, Second Theorem Of Isomorphisms ,** **Third Theorem Of Isomorphisms, Defintion Of Automormorphisms Of Groups, Examples Based On Automorphisms OF A Group , Definition Of Inner Automorphisms, Examples Based On Inner Automorphisms**
30 Aug, 2023	**Raksha Bandhan**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Dr. Shweta Dhawan
Class- B.Sc. III
Subject- Mathematics
Paper- BM-352…Groups and Rings

September, 2023 **1st Week** **1 Sept - 2 Sept**	**Definition Of Inner Automorphisms, Examples Based On Inner Automorphisms , Group Of Automorphisms Of A Cyclic Group, Examples Based On Cyclic Groups, Definition Of Centre Of A Group, Examples And Theorems Based On Centre Of A Group, Definition Of Normalizer Of An Element, Theorems Based On Normalizer And Centralizer Of An Element Of A Group**
3 Sept, 2023	**Sunday**
2nd Week **4 Sept - 9 Sept**	**AUTOMORPHISM OF A GROUP – CONTINUED** **Theorems Continued Conjugate Subgroup, Commutator Subgroup, Theorems Based On Commutator Subgroup , Revision Of Homomorphisms, Isomorphisms And Automorphisms , Group Discussion On Normal Subgroup, Simple Group And Quotient Group, Test Of Homomorphisms, Isomorphisms And Automorphisms**
5 Sept, 2023 **7 Sept, 2023** **10 Sept, 2023**	**Talent Show** **Janmastami** **Sunday**
3rd Week **11 Sept-16 Sept**	**PERMUTATION GROUPS** **Definition Of Permutation, Equality Of Permutation, Composition Of Two Functions, Examples Based On Composition Of Two Functions , Identity Permutation, Inverse Of A Permutation, Permutation Group, Cyclic Permutation Of A Group, Examples Based On Cyclic Permutation, Transposition, Disjoint Cycles , Examples Based On Disjoint Cycles, Even And Odd Permutations , Alternating Group, Centre Of Permutation Of A Group, Cayley Theorem, Group Discussion On Permutation Groups**
17 Sept, 2023	**Sunday**
4th Week **18 Sept - 22 Sept**	**RINGS AND FIELDS** **Definition Of Ring And Types Of Rings, Examples, Rings With Or Without Zero Divisors, Definition Of Integral Domain, Skew Field And Field, Theorems Based On Integral Domain, Skew Field And Field , Examples Based On Integral Domain, Skew Field And Field , Examples Continued, Definition Of Subrings**
23 Sept, 2023 **24 Sept, 2023** **25 Sept, 2023**	**Shaeedi Divas/Haryana War Heroes' Martyrdom Day** **Sunday** **Annual Prize Distribution Function**
5th Week **26 Sept - 30 Sept**	**SUBRINGS** **Definition Of Subrings And Theorems Based On Subrings , Centre Of A Ring And It's Theorems, Examples , Characteristics Of A Ring And Theorems On Characteristics Of A Ring , Group Discussion On Ring, Subring, Integral Domain, Skew Field And Field , Test Of Ring And Subring , Test Of Field, Subfields And Integral Domain**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Dr. Shweta Dhawan
Class- B.Sc. III
Subject- Mathematics
Paper- BM-352…Groups and Rings

October, 2023 **1 Oct , 2023** **2 Oct, 2023**	**Sunday** **Mahatama Gandhi Jayanti**
1st Week **3 Oct – 7 Oct**	**IDEALS AND QUOTIENT RINGS** **Definition Of Ideals,Examples Of Ideals,Sum Of Two Ideals,Ideal Generated By A Set, Product Of Two Ideals, Theorems On Ideals,Definition Of Principal Ideal,Unity Ideal,Maximal Ideal,Theorems Based On It,** **Theorems Continued , Examples Based On Principal Ideal, maximal IdealAnd Prime Ideal, Examples Continued,Definition Of Quotient Ring And Its Examples., Definition Of Ring Homomorphism, Examples And Theorems Based On It, Definition Of Ring Isomorphism**
8 Oct, 2023	**Sunday**
2nd Week **9 Oct - 14 Oct**	**HOMOMORPHISM OF RINGS** **Kernel Of A Ring Homomorphism, Theorems Based On Kernel And Examples, Fundamental Theorem Of Ring Homomorphism, First Theorem Of Isomorphism., Second Theorem Of Isomorphism, Examples Based On Ring Isomorphism, Embedding Of Rings,Embedded Ring, Set Of Quotient Of A Ring,Theorem On Embedded Ring , Theorems Continued On Embedded Ring And Examples Based On It.,** **Test Of Topic Ideals And Quotient Rings.**
15 Oct, 2023	**Maharaja Agrasen Jayanti, Sunday**
3rd Week **16 Oct - 21 Oct**	**EUCLIDEAN RINGS:** **Divisibility In A Commutative Ring,Unit Element,Theorems Based On Unit Element,Associates , Prime Element,Irreducible Elements,Gaussian Integers,Greatest Common Divisor,Least Common Multiple, Theorems Based On L.C.M And G.C.D,Euclidean Domain And Its Theorems ,** **Principal Ideal Domain And Its Theorems, Theorems Continued And Examples**
22 Oct, 2023	**Sunday**
4th Week **23 Oct – 27 Oct**	**POLYNOMIAL RINGS:** **Group Discussion On Euclidean Ring,Euclidean Domain,G.C.D,L.C.M, Polynomial Rings,Degree Of A Polynomial, Polynomial Over A Ring, Embedding Of R Into R[X], Polynomials Over An Integral Domain, Theorems Based On Integral Domain,**
24 Oct, 2023 **28 Oct, 2023** **29 Oct, 2023**	**Dussehra** **Maharishi Valmiki Jayanti** **Sunday**
5th Week **30 Oct – 31 Oct**	**Polynomial Over A Field and Theorems Based On It, Ring Of Polynomials In N Variables Over An Integral Domain,Divisibility Of Polynomials Over A Field,**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Dr. Shweta Dhawan
Class- B.Sc. III
Subject- Mathematics
Paper- BM-352…Groups and Rings

25 Oct – 4 Nov, 2023	**Sessionals and Topic Continued**
November, 2023 **1st Week** **1 Nov, 2023** **5 Nov, 2023**	**Haryana Day** **Sunday**
2nd Week **6 Nov – 9 Nov**	**POLYNOMIAL RINGS CONTINUED** **Divisor,Unit Element,Associates,Proper And Improper Divisors,Reducible And irreducible Element , G.C.D,Relatively Prime, Algorithm For R[X], Remainder Theorem.,** **Theorems And Examples Based On Principal Ideal Domain**
10 Nov - 16 Nov , 2023	**Diwali Break**
3rd Week **17 Nov - 18 Nov**	**Definition Of Unique Factorization Domain And Theorems Based On U.F.D**
19 Nov, 2023	**Sunday**
4th Week **20 Nov - 24 Nov**	**Definition Of Unique Factorization Domain And Theorems Based On U.F.D continued…**
5th Week **25 Nov, 2023 Onwards**	**University Examination**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – MS. SILKY PURI
Class- B.SC.III
Subject- MATHEMATICS
Paper- BM-353(NUMERICAL ANALYSIS)

August, 2023 **1st Week** **1 Aug - 5 Aug**	**Finite difference operators,finding the missing terms and effect of errors in a difference tabular values.**
6 Aug, 2023	**Sunday**
2nd Week **7 Aug - 12 Aug**	**Interpolation with equal and unequal intervals.Newton's forward interpolation formula.newton's Backward interpolation formula..**
13 Aug, 2023	**Sunday**
3rd Week **14 Aug-19 Aug**	**Newton's divided difference.Lagrange's interpolation formula.Hermite's formula.**
15 Aug, 2023 **20 Aug, 2023**	**Independence Day** **Sunday**
4th Week **21 Aug - 26 Aug**	**Central difference operators,Gauss forward interpolation formula ,Gauss backward interpolation formula.Sterling formula,Bessel's formula.**
27 Aug, 2023	**Sunday**
5th Week **28 Aug - 31Aug**	**Numerical differentiation,probability distribution of random variable.**
30 Aug, 2023	**Raksha Bandhan**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – MS. SILKY PURI
Class- B.SC.III
Subject- MATHEMATICS
Paper- BM-353(NUMERICAL ANALYSIS)

September, 2023 **1st Week** **1 Sept - 2 Sept**	**Binomial distribution,poisson's distribution,normal distribution.**
3 Sept, 2023	**Sunday**
2nd Week **4 Sept - 9 Sept**	**Mean ,variance and fitting.introduction to eigen values problems.**
5 Sept, 2023 **7 Sept, 2023** **10 Sept, 2023**	**Talent Show** **Janmastami** **Sunday**
3rd Week **11 Sept-16 Sept**	**Power method ,jacobi's method,given's method,House holder method**
17 Sept, 2023	**Sunday**
4th Week **18 Sept - 22 Sept**	**QR method,lanczo's method.**
23 Sept, 2023 **24 Sept, 2023** **25 Sept, 2023**	**Shaeedi Divas/Haryana War Heroes' Martyrdom Day** **Sunday** **Annual Prize Distribution Function**
5th Week **26 Sept - 30 Sept**	**Numerical integration .Numerical cote's quadrature formula.**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – MS. SILKY PURI
Class- B.SC.III
Subject- MATHEMATICS
Paper- BM-353(NUMERICAL ANALYSIS)

October, 2023 **1 Oct , 2023** **2 Oct, 2023**	**Sunday** **Mahatama Gandhi Jayanti**
1st Week **3 Oct – 7 Oct**	**Trapezoidal rule,simpson's one third rule and three eight rule**
8 Oct, 2023	**Sunday**
2nd Week **9 Oct - 14 Oct**	**Chebyshev formula and Gauss quadrature formula.**
15 Oct, 2023	**Maharaja Agrasen Jayanti, Sunday**
3rd Week **16 Oct - 21 Oct**	**Numerical solution of ordinary differential equations,single step method :picard method,taylor's method.**
22 Oct, 2023	**Sunday**
4th Week **23 Oct – 27 Oct**	**Euler's method ,Runga –kutta method .Multistep method:predictor-corrector method.**
24 Oct, 2023 **28 Oct, 2023** **29 Oct, 2023**	**Dussehra** **Maharishi Valmiki Jayanti** **Sunday**
5th Week **30 Oct – 31 Oct**	**Revision and tests.**
25 Oct – 4 Nov, 2023	**Sessional Exams**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher-MS. SILKY PURI
Class- B.SC.III
Subject- MATHEMATICS
Paper- BM-353(NUMERICAL ANALYSIS)

November, 2023 **1st Week** **1 Nov, 2023** **5 Nov, 2023**	**Haryana Day** **Sunday**
2nd Week **6 Nov – 9 Nov**	**Revision and tests.**
10 Nov - 16 Nov , 2023	**Diwali Break**
3rd Week **17 Nov - 18 Nov**	**Revision and tests.**
19 Nov, 2023	**Sunday**
4th Week **20 Nov - 24 Nov**	**Revision and tests.**
5th Week **25 Nov, 2023** **Onwards**	**University Examination**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Ms. Vandana Sharma
Class- M.Sc.(P)
Subject- Advanced Abstract Algebra
Paper- MM-401

3rd Week **17 Aug-19 Aug**	Discussion about course outcomes and programme outcomes Automorphisms and Inner automorphisms of a group G. The groups Aut(G) and Inn(G).
15 Aug, 2023 **20 Aug, 2023**	**Independence Day** **Sunday**
4th Week **21 Aug - 26 Aug**	Automorphism group of a cyclic group. Normalizer and Centralizer of a non-empty subset of a group G.
27 Aug, 2023	**Sunday**
5th Week **28 Aug - 31Aug**	Conjugate elements and conjugacy classes. Class equation of a finite group G and its applications. Derived group (or a commutator subgroup) of a group G. perfect groups. Zassenhau's Lemma.
30 Aug, 2023	**Raksha Bandhan**
September, 2023 **1st Week** **1 Sept - 2 Sept**	Normal and Composition series of a group G. Scheier's refinement theorem. Jordan Holder theorem. Composition series of groups of order p^n and of Abelian groups
3 Sept, 2023	**Sunday**
2nd Week **4 Sept - 9 Sept**	Cauchy theorem for finite groups. $\prod$ - groups and p-groups. Sylow $\prod$-subgroups and Sylow p-subgroups. Sylow's Ist, IInd and IIIrd theorems. Application of Sylow theory to groups of smaller orders

5 Sept, 2023 **7 Sept, 2023** **10 Sept, 2023**	**Talent Show** **Janmastami** **Sunday**
3rd Week **11 Sept-16 Sept**	**Examples based on theories. Test.**
17 Sept, 2023	**Sunday**
4th Week **18 Sept - 22 Sept**	Characteristic of a ring with unity. Prime fields Z/pZ and Q. Field extensions. Degree of an extension. Algebraic and transcendental elements. Simple field extensions. Minimal polynomial of an algebraic element.
23 Sept, 2023 **24 Sept, 2023** **25 Sept, 2023**	**Shaeedi Divas/Haryana War Heroes' Martyrdom Day** **Sunday** **Annual Prize Distribution Function**
5th Week **26 Sept - 30 Sept**	Conjugate elements. Algebraic extensions. Finitely generated algebraic extensions. Algebraic closure and algebraically closed fields.
October, 2023 **1 Oct , 2023** **2 Oct, 2023**	 **Sunday** **Mahatama Gandhi Jayanti**
1st Week **3 Oct – 7 Oct**	Splitting fields., finite fields.. Normal extensions.Separable elements, separable polynomials and separable extensions
8 Oct, 2023	**Sunday**
2nd Week **9 Oct - 14 Oct**	Splitting fields., finite fields.. Normal extensions.Separable elements, separable polynomials and separable extensions
15 Oct, 2023	**Maharaja Agrasen Jayanti, Sunday**
3rd Week **16 Oct - 21 Oct**	Theorem of primitive element. Perfect fields. Galois extensions. Galois group of an extension. Dedekind lemma Fundamental theorem of Galois theory.
22 Oct, 2023	**Sunday**
4th Week **23 Oct – 27 Oct**	Frobenius automorphism of a finite field. Klein's 4-group and Diheadral group. Galois groups of polynomials. Fundamental theorem of Algebra.
24 Oct, 2023 **28 Oct, 2023** **29 Oct, 2023**	**Dussehra** **Maharishi Valmiki Jayanti** **Sunday**
5th Week **30 Oct – 31 Oct**	Solvable groups Derived series of a group G. Simplicity of the Alternating group A_n ($n \geq 5$). Non-solvability of the symmetric group Sn and the

	Alternating group An (n≥5). _Roots of unity Cyclotomic polynomials and their irreducibility over Q
25 Oct – 4 Nov, 2023	Galois radical extensions. Cyclic extensions. Solvability of polynomials by radicals over Q. Symmetric functions and elementary symmetric functions. Construction with ruler and compass only.
November, 2023 **1st Week** **1 Nov, 2023** **5 Nov, 2023**	 **Haryana Day** **Sunday**
2nd Week **6 Nov – 9 Nov**	Revision
10 Nov - 16 Nov , 2023	**Diwali Break**
3rd Week **17 Nov - 18 Nov**	**Sessionals.**
19 Nov, 2023	**Sunday**
4th Week **20 Nov - 28 Nov**	**Sessionals.**
5th Week **28 Nov, 2023 Onwards**	**University Examination**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher - Ms. Deepika
Class- M.Sc. (Sem-I)
Subject- Mathematics
Paper- Real Analysis-I

August, 2023 **3rd Week** **16 Aug-19 Aug**	Discussion about course outcomes and programme outcomes Section-I, An Introduction to Riemann Stieltjes Integral, Definition of Riemann Stieltjes Integral, Existence of Riemann Stieltjes Integral, Properties of the Riemann Stieltjes Integral.Integration and Differentiation under integral.
15 Aug, 2023 **20 Aug, 2023**	**Independence Day** **Sunday**
4th Week **21 Aug - 26 Aug**	Integration and Differentiation under integral continued, The Fundamental Theorem of Integral Calculus, Introduction to Integration by Parts.
27 Aug, 2023	**Sunday**
5th Week **28 Aug - 31Aug**	Introduction of vector-valued functions, Introduction to Rectifiable curves. Section-II: Introduction to point-wise and uniform convergence.
30 Aug, 2023	**Raksha Bandhan**
September, 2023 **1st Week** **1 Sept - 2 Sept**	Difference between point-wise and uniform convergence, Cauchy criterion for uniform convergence, Introduction to Weirstrass M-test , Abel's test and Dirichlet's test for uniform convergence.
3 Sept, 2023	**Sunday**
2nd Week **4 Sept - 9 Sept**	Introduction to uniform convergence and continuity, Uniform convergence and Riemann Stieltjes Integration**.**
5 Sept, 2023 **7 Sept, 2023** **10 Sept, 2023**	**Talent Show** **Janmastami** **Sunday**
3rd Week **11 Sept-16 Sept**	Uniform convergence and differentiation, Existence of a real continuous nowhere differentiable function. Introduction to equi-continuous families of functions.
17 Sept, 2023	**Sunday**
4th Week **18 Sept - 22 Sept**	Difference between continuous, uniform continuous and equi-continuous functions, Weierstrass approximation theorem
23 Sept, 2023 **24 Sept, 2023** **25 Sept, 2023**	**Shaeedi Divas/Haryana War Heroes' Martyrdom Day** **Sunday** **Annual Prize Distribution Function**
5th Week **26 Sept - 30 Sept**	Section-III, Introduction of Linear transformations, derivative in an open subset, Stokes Theorem. Discuss student problems. Test

October, 2023 **1 Oct , 2023** **2 Oct, 2023**	 **Sunday** **Mahatama Gandhi Jayanti**
1st Week **3 Oct – 7 Oct**	Chain rule, partial derivatives, directional derivatives, the contraction principle
8 Oct, 2023	**Sunday**
2nd Week **9 Oct - 14 Oct**	Inverse Function Theorem,Implicit Function Theorem. Introduction to Jacobians, extremum problems with constraints, Lagrange's Multiplier method.
15 Oct, 2023	**Maharaja Agrasen Jayanti, Sunday**
3rd Week **16 Oct - 21 Oct**	Derivatives of higher order, Mean value theorem for real functions of two variables. Interchange of order of differentiation and differentiation of integrals.
22 Oct, 2023	**Sunday**
4th Week **23 Oct – 27 Oct**	Discuss student problems on Section-III. Section-IV, Introduction to Power Series. Uniqueness theorem for power Series, Abel's lemma and Abel's theorem. Tauber's theorem.
24 Oct, 2023 **28 Oct, 2023** **29 Oct, 2023**	**Dussehra** **Maharishi Valmiki Jayanti** **Sunday**
5th Week **30 Oct – 31 Oct**	Taylor's theorem, Exponential and Logarithmic functions, trigonometric functions, Fourier series, Gamma function
November, 2023 **1 Nov, 2023** **5 Nov, 2023**	 **Haryana Day** **Sunday**
1st Week **2 Nov – 4 Nov**	An Introduction to Integration of differential forms. Partitions of Unity and differential forms.
2nd Week **6 Nov – 9 NOV**	Stokes Theorem. Discuss student problems. Test
10 Nov - 16 Nov , 2023	**Diwali Break**
19 Nov, 2023	**Sunday**
3rd to 5th Week **17 Nov - 28 Nov**	**Sessional Exams**
5th Week **28 Nov, 2023 Onwards**	**University Examination**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Ms. Deepika
Class - M.Sc. (Sem - I)
Subject - Mathematics
Paper- Topology-I (MM-402)

August, 2023 **3rd Week** **16 Aug - 19 Aug**	Discussion about course outcomes and programme outcomes Definition and examples of a topological spaces, Neighbourhoods, Neighbourhood system of a point and its properties, Interior point and interior of a set, interior as an operator and its properties, Definition of closed set as complement of open set.
15 Aug, 2023 **20 Aug, 2023**	**Independence Day** **Sunday**
4th Week **21 Aug - 26 Aug**	Limit point of a set, derived set of a set, definition of closure of a set as union of the set and its derived set, Adherent point(Closure point) of a set, closure of a set as set of adherent point, properties of closure, closure as an operator and its properties.
27 Aug, 2023	**Independence Day** **Sunday**
5th Week **28 Aug - 31Aug**	Boundary of a set, dense sets, a characterization of dense sets, Base for a topology and its characterization, Base for neighbourhood system, sub-base for a topology.relative topology and subspace of a T.S.
30 Aug, 2023	**Raksha Bandhan**
September, 2023 **1st Week** **1 Sept - 2 Sept**	Alternate examples of defining a topology using properties of 'Nbd system' , 'interior operator' , 'closed sets', kuratowski closure operator and base.
3 Sept, 2023	**Sunday**
2nd Week **4 Sept - 9 Sept**	First countable, second countable and separable spaces, their relationships and hereditary property, About countability of a collection of disjoint open sets in a separable and a second countable space, Lindelof theorem, Comparison of topologies on a set.
5 Sept, 2023 **7 Sept, 2023** **10 Sept, 2023**	**Talent Show** **Janmastami** **Sunday**
3rd Week **11 Sept-16 Sept**	About intersection and union of topologies, Infimum and supremum of a collection of topologies on a set, The collection of all topologies on a set as a complete lattice, Definition , examples and characterizations of continuous functios, Composition of continuous functions, open and

	closed functions, Homeomorphism.
17 Sept, 2023	**Sunday**
4th Week **18 Sept - 22 Sept**	Embedding, tychonoff product topology in terms of standard sub-base, Related examples, Projection maps, their continuity and openness characterization of product topology as the smallest topology with projection continuous, Continuity of a function from a space into a product of spaces. T0, T1 space.
23 Sept, 2023 **24 Sept, 2023** **25 Sept, 2023**	**Shaeedi Divas/Haryana War Heroes' Martyrdom Day** **Sunday** **Annual Prize Distribution Function**
5th Week **26 Sept - 30 Sept**	T2 , Regular and T3 separation axioms, their characterization, Examples on these spaces, Basic properties i.e. hereditary property of T0, T1, regular and T3 spaces, Do some practice sum, About hausdorffness of quotient space, Productive property of T1 and T2 spaces, Quotient topology w.r.t. a map, Related examples.
October, 2023 **1 Oct , 2023** **2 Oct, 2023**	 **Sunday** **Mahatama Gandhi Jayanti**
1st Week **3 Oct – 7 Oct**	Continuity of a function with domain a space having quotient space, Completely regular and tychonoff spaces, their hereditary and productive properties, Embedding lemma and embedding theorem.
8 Oct, 2023	**Sunday**
2nd Week **9 Oct - 14 Oct**	Normal and T4 spaces: definitions and examples, Test and revision, Solve Practice sum and discuss them, Urysohn's lemma, complete regularity of a regular normal space, T4 implies tychonoff, Tietze's extention theorem (statement only).
15 Oct, 2023	**Maharaja Agrasen Jayanti, Sunday**
3rd Week **16 Oct - 21 Oct**	Definition and examples of filters on a set, Collection of all filters on a set as a p.o. set, finer filters, Methods of generating filters/finer filters, ultra filter (u.f.) and its characterizations, Ultra filter principle, Image of filter under a function, Convergence of filters : limit point and limit of a filter and relationship between them.
22 Oct, 2023	**Sunday**
4th Week **23 Oct – 27 Oct**	Continuity in terms of convergence of filters, hausdorffness and filter convergence, Test and revision, Continuity and compact set, compactness and separation properties. COMPACTNESS: definitions and examples of compact spaces, Definition of a compact subset as a compact subspace, Related examples
24 Oct, 2023 **28 Oct, 2023** **29 Oct, 2023**	**Dussehra** **Maharishi Valmiki Jayanti** **Sunday**
5th Week **30 Oct – 31 Oct**	 Relation of open cover of a subset of a T.S. in the subspace with that in the main space, Compactness in terms of finite intersection property (f.i.p.), Regularity and normality of a compact hausdroff space, Compactness and filter convergence, Convergence of filter in a product space, Tychonoff product theorem using filters.

November, 2023 **1st Week** **1 Nov, 2023** **5 Nov, 2023**	**Haryana Day** **Sunday**
1st Week **2 Nov – 4 Nov**	Tychonoff space as a subspace of a compact hausdroff space and its Converse, related examples, Compactness and hausdroff compactification, Test, Stone- Cech compactification.
2nd Week **6 Nov – 9 Nov**	Closedness of compact subset, closedness of continuous map from a compact space into a hausdroff space and its convergence, Group discussion on different topologies, Test and revision
3rd Week **10 Nov - 16 Nov , 2023**	**Diwali Break**
19 Nov, 2023	**Sunday**
4th Week **17 Nov - 28 Nov**	**Sessional Exams**
5th Week **28 Nov, 2023 Onwards**	**University Examination**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Monila Bansal
Class- M.sc. (Sem-I)
Subject- Mathematics
Paper- Complex Analysis-I (MM-404)

August,2023 **3rd Week** **17 Aug-19 Aug**	Discussion about course outcomes and programme outcomes An introduction to Complex analysis Introduction to power series and its convergence
15 Aug, 2023 **20 Aug, 2023**	**Independence Day** **Sunday**
4th Week **21 Aug - 26 Aug**	Theorems based on sum, product of power series and its radius of convergence Examples based on radius of convergence Differentiability of sum function of power series
27 Aug, 2023	**Sunday**
5th Week **28 Aug - 31Aug**	Exp(z) and its properties Theorem based on branch of logarithm Power of a complex number, their branches and analyticity Definition :path in a region, smooth path, contour,simple connected region and multiple connected region Theorem based on bounded variation and total variation
30 Aug, 2023	**Raksha Bandhan**
September, 2023 **1st Week** **1 Sept - 2 Sept**	Cauchy goursat theorem and its examples
3 Sept, 2023	**Sunday**
2nd Week **4 Sept - 9 Sept**	Cauchy theorem for simply and multiple connected domain Cauchy integral formula Extension of Cauchy integral formula for multiple connected domain Higher order derivative of Cauchy integral formula Examples related to Cauchy integral formula Gauss mean value theorem
5 Sept, 2023 **7 Sept, 2023** **10 Sept, 2023**	**Talent Show** **Janmastami** **Sunday**
3rd Week **11 Sept-16 Sept**	Morera's theorem Fundamental theorem of algebra

	Entire functions and radius of convergence Cauchy inequality and liouville's theorem Theorem and examples based on liouville's theorem
17 Sept, 2023	**Sunday**
4th Week **18 Sept - 22 Sept**	Winding number of a closed curve with some properties Zero of an analytic function Entire function and its radius of convergence Taylor's theorem Theorem based examples
23 Sept, 2023 **24 Sept, 2023** **25 Sept, 2023**	**Shaeedi Divas/Haryana War Heroes' Martyrdom Day** **Sunday** **Annual Prize Distribution Function**
5th Week **26 Sept - 30 Sept**	Laurent's series Example related to laurent's series Maximum modulus principle Minimum modulus principle Schwarz lemma Theorem based on Schwarz lemma
October, 2023 **1 Oct , 2023** **2 Oct, 2023**	 **Sunday** **Mahatama Gandhi Jayanti**
1st Week **3 Oct – 7 Oct**	Singularity and their classification Pole of a function and its order Examples based on singularities Riemann theorem
8 Oct, 2023	**Sunday**
2nd Week **9 Oct - 14 Oct**	Cassorati-weierstrass theorem Meromorphic function ,poles and zeros of meromorphic function Argument principle Rouche's theorem Example based on rouche's theorem
15 Oct, 2023	**Maharaja Agrasen Jayanti, Sunday**
3rd Week **16 Oct - 21 Oct**	Inverse function theorem Related examples Def: residue Example based on residue of a pole Residue at infinity
22 Oct, 2023	**Sunday**
4th Week **23 Oct – 27 Oct**	Cauchy residue theorem Theorem based on residue Liouville theorem based on residue theorem Example on Cauchy residue theorem
24 Oct, 2023 **28 Oct, 2023** **29 Oct, 2023**	**Dussehra** **Maharishi Valmiki Jayanti** **Sunday**
5th Week **30 Oct – 31 Oct**	Integral type I and its examples
November, 2023 **1st week**	Integral type II Integral type III and its examples

2 Nov- 4Nov	
2023 **5 Nov, 2023**	**Haryana Day** **Sunday**
2nd Week **6 Nov – 9 Nov**	Integral type IV Bilinear transformation ,their properties Critical points Cross ratio and its example
10 Nov - 16 Nov , 2023	**Diwali Break**
3rd Week **17 Nov – 28 Nov**	Sessional Exams
28 Nov,2023 onwards	**University Exams**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher - Ms. Deepika
Class- M.Sc. (Sem-I)
Subject- Mathematics
Paper- Differential Equations-I

3rd Week **16 Aug-19 Aug**	Discussion about course outcomes and programme outcomes Definition of initial value problem and equivalent integral equation, Definition of E-approximate solution and examples, Equi-continuous set of functions, Ascoli -Arzela theorem, Cauchy-Peano existence theorem and its corollary.
15 Aug, 2023 **20 Aug, 2023**	**Independence Day** **Sunday**
4th Week **21 Aug - 26 Aug**	Definition of Lipschitz condition and examples, Differential inequalities and uniqueness, Gronwall's inequality, Successive approximation with examples, Group discussion, Picard-Lindelof theorem.
27 Aug, 2023	**Sunday**
5th Week **28 Aug - 31Aug**	Continuation of solution, Maximal interval of existence, Extension theorem, Kneser's theorem (statement only), Revision, Definition and notations of linear differential system.
30 Aug, 2023	**Raksha Bandhan**
September, 2023 **1st Week** **1 Sept - 2 Sept**	Definition and notations of linear differential system, Linear homogenous system, Definition of fundamental matrix and Adjoint system, Reduction to smaller homogenous system, Non-homogeneous linear system.
3 Sept, 2023	**Sunday**
2nd Week **4 Sept - 9 Sept**	Variation of constant, Linear system with constant coefficients, Linear system with periodic coefficients, Floquet theory.
5 Sept, 2023 **7 Sept, 2023** **10 Sept, 2023**	**Talent Show** **Janmastami** **Sunday**
3rd Week **11 Sept-16 Sept**	Linear differential equation of order n, Linear combinations and examples, Linear dependence and linear independence solutions.
17 Sept, 2023	**Sunday**
4th Week **18 Sept - 22 Sept**	Definition, necessary and sufficient condition for linear dependence and linear independent solutions of homogeneous linear differential equation, Abel's Identity.
23 Sept, 2023 **24 Sept, 2023**	**Shaeedi Divas/Haryana War Heroes' Martyrdom Day** **Sunday**

25 Sept, 2023	**Annual Prize Distribution Function**
5th Week **26 Sept - 30 Sept**	Fundamental set, More Wronskian theory and examples, Reduction of order.
October, 2023 **1 Oct , 2023** **2 Oct, 2023**	**Sunday** **Mahatama Gandhi Jayanti**
1st Week **3 Oct – 7 Oct**	Non-homogenous linear differential equation, Variation of parameters, Adjoint Equations, Lagrange's Identity.
8 Oct, 2023	**Sunday**
2nd Week **9 Oct - 14 Oct**	Green's formula, Linear equation of order n with constant coefficients, Numericals, Test.
15 Oct, 2023	**Maharaja Agrasen Jayanti, Sunday**
3rd Week **16 Oct - 21 Oct**	System of differential equations, The n-th order equation, Dependence of solutions on initial conditions and parameters, Examples, Preliminiaries.
22 Oct, 2023	**Sunday**
4th Week **23 Oct – 27 Oct**	Theorem of wintner, Uniqueness theorems: Kamke's theorem, Nagumo's theorem, Osgood theorem.
24 Oct, 2023 **28 Oct, 2023** **29 Oct, 2023**	**Dussehra** **Maharishi Valmiki Jayanti** **Sunday**
5th Week **30 Oct – 31 Oct**	Group discussion, Revision, Test, Numerical of Lipschitz condition.
November, 2023 **1st Week** **1 Nov, 2023** **5 Nov, 2023**	**Haryana Day** **Sunday**
2nd **2 Nov – 4 Nov**	Numerical of picard- lindelof theorem, Numerical of fundamental matrix, Numerical of variation of parameters.
10 Nov - 16 Nov , 2023	**Diwali Break**
2nd Week **6 Nov- 9 Nov**	Numerical of Wronskian theory, Numerical of linear combinations, linear dependent and independent solutions, Group discussion
19 Nov, 2023	**Sunday**
4th Week **17 Nov - 28 Nov**	**Sessional Exams**
5th Week **28 Nov, 2023 Onwards**	**University Examination**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Ms. Vandana Sharma
Class- M.Sc.(F)
Subject- Functional Analysis
Paper- MM-501

August, 2023 **1st Week** **1 Aug - 5 Aug**	Discussion about course outcomes and programme outcomes Normed linear spaces, Banach spaces and examples, subspace of a Banach space, completion of a normed space.
6 Aug, 2023	**Sunday**
2nd Week **7 Aug - 12 Aug**	Quotient space of a normed linear space and its completeness, product of normed spaces.finite dimensional normed spaces and subspaces, equivalent norms, compactness and finite dimension, F.Riesz's lemma.
13 Aug, 2023	**Sunday**
3rd Week **14 Aug-19 Aug**	Bounded and continuous linear operators, differentiation operator, integral operator, bounded linear extension, linear functional , bounded linear functional , continuity and boundedness definite integral,
15 Aug, 2023 **20 Aug, 2023**	**Independence Day** **Sunday**
4th Week **21 Aug - 26 Aug**	Canonical mapping, linear operators and functional on finite dimensional spaces, normed spaces of operators, dual spaces with examples.
27 Aug, 2023	**Sunday**
5th Week **28 Aug - 31Aug**	**Examples based on theories. Test.**
30 Aug, 2023	**Raksha Bandhan**
September, 2023 **1st Week** **1 Sept - 2 Sept**	Hahn-Banach theorem for real linear spaces, complex linear spaces and normed linear spaces. application to bounded linear functionals on C[a,b].
3 Sept, 2023	**Sunday**
2nd Week **4 Sept - 9 Sept**	Riesz-representation theorem for bounded linear functionals on C[a,b]. Riesz-representation theorem for bounded linear functional on C[a,b],
5 Sept, 2023 **7 Sept, 2023** **10 Sept, 2023**	**Talent Show** **Janmastami** **Sunday**
3rd Week **11 Sept-16 Sept**	Adjoint operator, norm of the adjoint operator. Reflexive spaces, uniform boundedness theorem. Some of its applications to the space of polynomials
17 Sept, 2023	**Sunday**
4th Week **18 Sept - 22 Sept**	Fourier series. Strong and weak convergence, weak convergence in l^p Convergence of sequences of operators, uniform operator convergence
23 Sept, 2023 **24 Sept, 2023** **25 Sept, 2023**	**Shaeedi Divas/Haryana War Heroes' Martyrdom Day** **Sunday** **Annual Prize Distribution Function**
5th Week	Strong operator convergence, weal operator convergence. strong and

26 Sept - 30 Sept	weak* convergence of a sequence of functionals. Open mapping theorem, bounded inverse theorem. closed linear operators, closed graph theorem, differential operator
October, 2023 **1 Oct , 2023** **2 Oct, 2023**	 **Sunday** **Mahatama Gandhi Jayanti**
1st Week **3 Oct – 7 Oct**	Relation between closedness and boundedness of a linear operator. Inner product spaces, Hilbert spaces and their examples, pythagorean theorem, Apolloniu's identity, Schwarz inequality, continuity of innerproduct, completion of an inner product space.
8 Oct, 2023	**Sunday**
2nd Week **9 Oct - 14 Oct**	Subspace of a Hilbert space, orthogonal complements and direct sums, projection theorem, characterization of sets in Hilbert spaces whose space is dense. Orthonormal sets and sequences, Bessel's inequality, series related to orthonormal sequences and sets.
15 Oct, 2023	**Maharaja Agrasen Jayanti, Sunday**
3rd Week **16 Oct - 21 Oct**	Sesquilinear forms on a Hilbert space. total(complete) orthonormal sets and sequences, Parseval's identity, separable Hilbert spaces.Representation of functionals on Hilbert spaces, Riesz representation theorem for bounded linear functionals on a Hilbert space, sesquilinear form, Riesz representation theorem for bounded
22 Oct, 2023	**Sunday**
4th Week **23 Oct – 27 Oct**	Hilbert adjoint operator, its existence and uniqueness, properties of Hilbert adjoint operators, self adjoint, unitary, normal, positive and projection operators.
24 Oct, 2023 **28 Oct, 2023** **29 Oct, 2023**	**Dussehra** **Maharishi Valmiki Jayanti** **Sunday**
5th Week **30 Oct – 31 Oct**	Problem taking week of section-1
25 Oct – 4 Nov, 2023	**Numericals based on Theorems.**
November, 2023 **1st Week** **1 Nov, 2023** **5 Nov, 2023**	 **Haryana Day** **Sunday**
2nd Week **6 Nov – 9 Nov**	Revision
10 Nov - 16 Nov , 2023	**Diwali Break**
3rd Week **17 Nov - 18 Nov**	**Sessionals.**
19 Nov, 2023	**Sunday**
4th Week **20 Nov - 28 Nov**	**Sessionals.**

5th Week **28 Nov, 2023** **Onwards**	**University Examination**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Monila Bansal
Class- M.sc. (Sem-III)
Subject- Mathematics
Paper- Analytic Mechanics and Calculus of Variation (MM-502)

August, 2023 **1st Week** **1 Aug - 5 Aug**	Discussion about course outcomes and program outcomes An introduction to functional Some basic theorem of calculus of variation Fundamental lemma of calculus of variation Euler,s theorem,Examples related to euler's theorem Shortest distance, minimum surface of revolution
6 Aug, 2023	**Sunday**
2nd Week **7 Aug - 12 Aug**	Brachristochrone problem, Euler's equation for one dependent function of one and several independent theorem Functional depending on'n' dependent functions, Example based on functional depending on 'n' dependent functions
13 Aug, 2023	**Sunday**
3rd Week **14 Aug-19 Aug**	Functional depending on higher order derivative Examples related to higher order derivative variational derivative Invariance of euler's equation and related examples
15 Aug, 2023 **20 Aug, 2023**	**Independence Day** **Sunday**
4th Week **21 Aug - 26 Aug**	Natural boundary conditions isoperimetric problem geodesic
27 Aug, 2023	**Sunday**
5th Week **28 Aug - 31Aug**	Transversality condition Conditional extremum under geometric constraints and under integral constraints
30 Aug, 2023	**Raksha Bandhan**
September, 2023 **1st Week** **1 Sept - 2 Sept**	Variable end points And related examples
3 Sept, 2023	**Sunday**
2nd Week **4 Sept - 9 Sept**	Test Free and constrained systems Constraints and their classification
5 Sept, 2023 **7 Sept, 2023** **10 Sept, 2023**	**Talent Show** **Janmastami** **Sunday**

3rd Week **11 Sept-16 Sept**	Holonomic and non holonomic systems Scleronomic and rheonomic systems Generalized coordinates Generalized potential Possible and virtual displacement Ideal constraints
17 Sept, 2023	**Sunday**
4th Week **18 Sept - 22 Sept**	General equation of dynamics Reaction Forces Lagrange's equation of first kind Principle of virtual displacements, D'Alembert principle Holonomic system independent coordinate
23 Sept, 2023 **24 Sept, 2023** **25 Sept, 2023**	**Shaeedi Divas/Haryana War Heroes' Martyrdom Day** **Sunday** **Annual Prize Distribution Function**
5th Week **26 Sept - 30 Sept**	Generalized forces Lagrange's equations of second kind Uniqueness of solution Theorem on variation of total energy Gyroscopic and dissipative forces
October, 2023 **1 Oct , 2023** **2 Oct, 2023**	 **Sunday** **Mahatama Gandhi Jayanti**
1st Week **3 Oct – 7 Oct**	Lagrange's equation for potential forces equation for conservative fields Hamilton's variables Don kin's theorem, Hamilton canonical equation
8 Oct, 2023	**Sunday**
2nd Week **9 Oct - 14 Oct**	Routh's equation Cyclic coordinates Poisson's bracket ,poisson's identity
15 Oct, 2023	**Maharaja Agrasen Jayanti, Sunday**
3rd Week **16 Oct - 21 Oct**	Jacobi Poisson theorem Hamilton's principle Second form of Hamilton's principle Poincare carton integral invariant
22 Oct, 2023	**Sunday**
4th Week **23 Oct – 27 Oct**	Whittaker's equation Jacobi equation Principle of least action Canonical transformation Free canonical transformation Hamilton Jacobi equation
24 Oct, 2023 **28 Oct, 2023** **29 Oct, 2023**	**Dussehra** **Maharishi Valmiki Jayanti** **Sunday**
5th Week **30 Oct – 31 Oct**	Jacobi theorem Method of separation of variables for solving Hamilton –jacobi equation
November, 2023 **1st week**	Testing the canonical character of a transformation Lagrange's bracket

2 Nov- 4Nov	
1Nov, 2023 **5 Nov, 2023**	**Haryana Day** **Sunday**
2nd Week **6 Nov – 9 Nov**	Condition of canonical character of a transformation Simplicial nature of a Jacobi matrix of a Canonical transformation Invariance of Lagrange's brackets and Poisson brackets under canonical transformation
10 Nov - 16 Nov	**Diwali Break**
3rd Week **17 Nov – 28 Nov**	Sessional Exams
28 Nov,2023 onwards	**University Exams**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Ms. Vandana Sharma
Class- M.Sc.(F)
Subject- Elasticity
Paper- MM-503(Opt(i))

August, 2023 **1st Week** **1 Aug - 5 Aug**	Discussion about course outcomes and program outcomes Tensor, Properties of tensors, Isotropic tensors of different orders and relation between them.
6 Aug, 2023	**Sunday**
2nd Week **7 Aug - 12 Aug**	Symmetric and skew symmetric tensors. Tensor invariants, Deviatoric tensors, Eigen-values and eigen-vectors of a tensor.
13 Aug, 2023	**Sunday**
3rd Week **14 Aug-19 Aug**	Tensor Analysis: Scalar, vector, tensor functions, Comma notation, Gradient •
15 Aug, 2023 **20 Aug, 2023**	**Independence Day** **Sunday**
4th Week **21 Aug - 26 Aug**	Divergence and curl of a vector / tensor field. Analysis of Strain : Affine transformation, Infinitesimal affine deformation.
27 Aug, 2023	**Sunday**
5th Week **28 Aug - 31Aug**	Geometrical Interpretation of the components of strain. Strain quadric of Cauchy. Principal strains and invariance.
30 Aug, 2023	**Raksha Bandhan**
September, 2023 **1st Week** **1 Sept - 2 Sept**	General infinitesimal deformation. Saint-Venant's equations of compatibility. Finite deformations.
3 Sept, 2023	**Sunday**
2nd Week **4 Sept - 9 Sept**	Analysis of Stress : Stress Vector, Stress tensor, Equations of equilibrium, Transformation of coordinates.
5 Sept, 2023 **7 Sept, 2023** **10 Sept, 2023**	**Talent Show** **Janmastami** **Sunday**
3rd Week **11 Sept-16 Sept**	Mohr's circles, examples of stress. Equations of Elasticity : Generalised Hooks Law
17 Sept, 2023	**Sunday**

4th Week **18 Sept - 22 Sept**	Anisotropic symmetries, Homogeneous isotropic medium.
23 Sept, 2023 **24 Sept, 2023** **25 Sept, 2023**	**Shaeedi Divas/Haryana War Heroes' Martyrdom Day** **Sunday** **Annual Prize Distribution Function**
5th Week **26 Sept - 30 Sept**	Elasticity moduli for Isotropic media. Equilibrium and dynamic equations for an isotropic elastic solid.
October, 2023 **1 Oct , 2023** **2 Oct, 2023**	**Sunday** **Mahatama Gandhi Jayanti**
1st Week **3 Oct – 7 Oct**	Strain energy function and its connection with Hooke's Law, Uniqueness of solution.
8 Oct, 2023	**Sunday**
2nd Week **9 Oct - 14 Oct**	Beltrami-Michell compatibility equations, problem discussion , test.
15 Oct, 2023	**Maharaja Agrasen Jayanti, Sunday**
3rd Week **16 Oct - 21 Oct**	Clapeyron's theorem. Saint-Venant's principle. problem discussion, test.
22 Oct, 2023	**Sunday**
4th Week **23 Oct – 27 Oct**	Revision
24 Oct, 2023 **28 Oct, 2023** **29 Oct, 2023**	**Dussehra** **Maharishi Valmiki Jayanti** **Sunday**
5th Week **30 Oct – 31 Oct**	**Revision**
25 Oct – 4 Nov, 2023	**Numericals based on Theorems.**
November, 2023 **1st Week** **1 Nov, 2023** **5 Nov, 2023**	**Haryana Day** **Sunday**
2nd Week **6 Nov – 9 Nov**	Revision
10 Nov - 16 Nov , 2023	**Diwali Break**
3rd Week **17 Nov - 18 Nov**	**Sessionals.**
19 Nov, 2023	**Sunday**
4th Week **20 Nov - 28 Nov**	**Sessionals.**
5th Week **28 Nov, 2023** **Onwards**	**University Examination**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Monila Bansal
Class- M.sc. (Sem-III)
Subject- Mathematics
Paper- Fluid Mechanics-I (MM-504 opt i)

August, 2023 1st Week 1 Aug - 5 Aug	Discussion about course outcomes and program outcomes An introduction to fluid dynamics Some basic definition of fluid mechanics Velocity at a point of a fluid Lagrangian and Eulerian methods Relationship between Lagrangian and Eulerian methods
6 Aug, 2023	Sunday
2nd Week 7 Aug - 12 Aug	Stream lines,path lines and streak lines Vorticity and circulation Vortex lines Material derivative of fluid
13 Aug, 2023	Sunday
3rd Week 14 Aug-19 Aug	Acceleration of a fluid Significance of equation of continuity, Equation of continuity in vector form Equation of continuity in Cartesian form Equation of continuity by lagrangian method Equivalence relation between lagrangian and eulerian equation of continuity
15 Aug, 2023 20 Aug, 2023	Independence Day Sunday
4th Week 21 Aug - 26 Aug	General analysis of fluid motion Boundary surfaces and boundary surface conditions Properties of fluids-static and dynamic pressure Irrotational and rotational motion, velocity potential
27 Aug, 2023	Sunday
5th Week 28 Aug - 31Aug	Reynolds transport theorem Euler's equation of motion Conservative forces
30 Aug, 2023	Raksha Bandhan
September, 2023 1st Week 1 Sept - 2 Sept	Lagrange's equation of motion Bernouilli's theorem
3 Sept, 2023	Sunday
2nd Week	Application of Bernouilli's equation in one dimensional flow problems

4 Sept - 9 Sept	Test
5 Sept, 2023 7 Sept, 2023 10 Sept, 2023	Talent Show Janmastami Sunday
3rd Week 11 Sept-16 Sept	Kelvin circulation theorem Kelvin minimum energy theorem Vorticity equation
17 Sept, 2023	Sunday
4th Week 18 Sept - 22 Sept	Energy equation for incompressible flow Kinetic energy of irrotational flow Mean potential over spherical surface Kinetic energy of infinite liquid Uniqueness theorem
23 Sept, 2023 24 Sept, 2023 25 Sept, 2023	Shaeedi Divas/Haryana War Heroes' Martyrdom Day Sunday Annual Prize Distribution Function
5th Week 26 Sept - 30 Sept	Definition of real fluid and ideal fluid Stress component in a real fluid Relation between rectangular component of stress
October, 2023 1 Oct , 2023 2 Oct, 2023	 Sunday Mahatama Gandhi Jayanti
1st Week 3 Oct – 7 Oct	Connection between stresses and gradients of velocity Navier stoke's equation of motion Steady flow between two parallel plates Plane poiseuille flow Couette flow
8 Oct, 2023	Sunday
2nd Week 9 Oct - 14 Oct	Reduction of navier stoke equation in flows having axis of symmetry Steady flow in circular pipe Hagen poiseuille flow
15 Oct, 2023	Maharaja Agrasen Jayanti, Sunday
3rd Week 16 Oct - 21 Oct	Steady flow between two coaxial cylinders Flow between two concentric rotating cylinders
22 Oct, 2023	Sunday
4th Week 23 Oct – 27 Oct	Related examples Corollary of rotating cylinde Steady flow through tubes of uniform cross section Uniqueness theorem
24 Oct, 2023 28 Oct, 2023 29 Oct, 2023	Dussehra Maharishi Valmiki Jayanti Sunday
5th Week 30 Oct – 31 Oct	Ellipse cross section Equilateral triangle cross section
November, 2023 1st week 2 Nov- 4Nov	Rectangular cross section under constant pressure Example based on coaxial cylinders Example based on stress strain relation

2023 **5 Nov, 2023**	**Haryana Day** **Sunday**
2nd Week **6 Nov – 9 Nov**	**Some important examples** **Revision of syllabus**
10 Nov - 16 Nov , 2023	**Diwali Break**
3rd Week **17 Nov – 28 Nov**	**Sessional Exams**
28 Nov,2023 onwards	**University Exams**

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023
(August - December)

Name of the Teacher – Monila Bansal
Class- M.sc. (Sem-III)
Subject- Mathematics
Paper- Integral Equation (MM-505 opt i)

August, 2023 **1st Week** **1 Aug - 5 Aug**	Discussion about course outcomes and program outcomes Definition of integral equation and their classifications Eigen values and eigen functions, Special kinds of kernel ,convolution integral The inner or scalar product of two functions
6 Aug, 2023	**Sunday**
2nd Week **7 Aug - 12 Aug**	Reduction to a system of algebraic equations Examples related to algebraic equation
13 Aug, 2023	**Sunday**
3rd Week **14 Aug-19 Aug**	Fredholm alternative Fredholm theorem Fredholm alternative theorem
15 Aug, 2023 **20 Aug, 2023**	**Independence Day** **Sunday**
4th Week **21 Aug - 26 Aug**	Approximate method Related examples Method of successive approximation
27 Aug, 2023	**Sunday**
5th Week **28 Aug - 31Aug**	Iterative scheme for fredholm and volterra integral equation Conditions of uniform convergence and uniqueness of series solution Resolvent kernel and related examples Theorem based on resolvent kernel
30 Aug, 2023	**Raksha Bandhan**
September, 2023 **1st Week** **1 Sept - 2 Sept**	Classical fredholm's theory,the method of solution fredholm equation
3 Sept, 2023	**Sunday**
2nd Week **4 Sept - 9 Sept**	Fredholm's first theorem Examples of Fredholm's first theorem
5 Sept, 2023 **7 Sept, 2023** **10 Sept, 2023**	**Talent Show** **Janmastami** **Sunday**
3rd Week	Fredholm's second theorem

11 Sept-16 Sept	Fredholm's third theorem
17 Sept, 2023	**Sunday**
4th Week **18 Sept - 22 Sept**	Examples related to fredholm's theorem Symmetric kernels Complex Hilbert space Orthonormal system of functions Riesz –Fisher theorem
23 Sept, 2023 **24 Sept, 2023** **25 Sept, 2023**	**Shaeedi Divas/Haryana War Heroes' Martyrdom Day** **Sunday** **Annual Prize Distribution Function**
5th Week **26 Sept - 30 Sept**	A complete two dimensional orthonormal set over rectangle Fundamental properties of eigenvalues and eigen functions for symmetric kernels
October, 2023 **1 Oct , 2023** **2 Oct, 2023**	 **Sunday** **Mahatama Gandhi Jayanti**
1st Week **3 Oct – 7 Oct**	expansion in eigen functions and bilinear form Hilbert-schmidt theorem and some immediate consequences
8 Oct, 2023	**Sunday**
2nd Week **9 Oct - 14 Oct**	Definite kernels and Mercer's theorem Solution of a symmetric integral equation
15 Oct, 2023	**Maharaja Agrasen Jayanti, Sunday**
3rd Week **16 Oct - 21 Oct**	Approximation of a general l_2—kernel by a separable kernel The operator method in theory of integral equations Rayleigh-ritz method for finding the first eigen value Related examples
22 Oct, 2023	**Sunday**
4th Week **23 Oct – 27 Oct**	Inversion formula for singular integral equation And related examples
24 Oct, 2023 **28 Oct, 2023** **29 Oct, 2023**	**Dussehra** **Maharishi Valmiki Jayanti** **Sunday**
5th Week **30 Oct – 31 Oct**	Test Cauchy's principal value for integral solution
November, 2023 **1st week** **2 Nov- 4Nov**	Cauchy type singular integral equation Closed and unclosed contours
2023 **5 Nov, 2023**	**Haryana Day** **Sunday**
2nd Week **6 Nov – 9 Nov**	Riemann Hilbert problem The Hilbert –Kernel solution of the Hilbert type singular integral equation
10 Nov - 16 Nov , 2023	**Diwali Break**
3rd Week **17 Nov – 28 Nov**	Sessional Exams

28 Nov,2023 onwards	**University Exams**