Government College for Women, Ateli (Mahendragarh)

Department of Mathematics

Session: 2023-24

Lesson Plan

Name of Assistant/Associate Professor: Mr. Manoj Kumar

Class and section: B.A./B.Sc. I Year

Subject: Calculus

Week 1   Definition of limit, properties of limit, examples of limit,   continuous function, types of discontinuity, examples of discontinuity, definition of differentiability, examples of Differential function.
Week 2 .   Types of Differential function, problems related to differential function, solution of Differential functions, related problems,   Successive differentiation, problems related to successive differentiation
Week 3. Application of successive differentiation, Lebanese theorem, maclaurin series, Taylor series, examples of maclaurin series, examples of Taylor series, related problems on maclaurin series.
Week 4.   assignment problems on differentiation, solution of assignment problems, definition of Asymptote, cartesian co-ordinate system, intersection of curves, asymptote and curve, Assignment.
Week 5   Examples of asymptote, problems related to asymptote, polar co-ordinate system, asymptote of Polar coordinates, examples of Polar co-ordinate system.
Week 6.   curvature, examples of curvature, curvature for Cartesian curve, parametric curve, polar curve, problems related to polar curve, Newton's method, questions based on Newton's method.
Week 7.   radius of curvature,   examples of radius of curvature, problems related to radius of curvature, pedal curves,   related problems, tangential polar equation, centre of curvature, problems on centre of curvature.
Week 8.   circle of curvature, problems on circle of curvature, doubt discussion, assignment, class test.
Week 9.   chord of curvature, problems on chord of curvature evolutes, involutes and related problems, points of inflection, multiple points, cusps, nodes, problems on nodes.
Week 10. conjugate points, assignment problems, related problems on cusps, tracing of curve of cartesian system, related problems.
Week 11. . tracing of curve for polar system, related problems on polar system, reduction formula, problems on reduction formula, rectification, problems on rectification,
Week 12 intrinsic equation, problems on intrinsic equation, quadrature, sectorial area, problems on quadrature, problems on sectorial area, related problems.
week 13. closed curve, problems on closed curve, volumes of solids, surface of solids, related problems, revolution, assignment.
week 14 . Pappu theorem, related problems, Guilden theorem, problems on above theorem, assignment problems, related problems and solution.
week 15. Revision, doubt discussion, class test.
week 16. Revision

Name of Assistant/Associate Professor: Mr. Manoj Kumar

Class and section: B.A./B.Sc. 1st Year

Subject: Algebra

Week 1. Definition of metrics, Symmetric metrics, skew symmetric metrics, Hermitian and Skew- Hermitian Matrices.
Week 2. Rank of Matrix (by definition), Elementary operations on Matrices, Row rank and column rank of matrix, Normal form of matrix, Inverse of matrix (With the help of elementary operations)
Week 3. Linear dependence and independence, Characteristic Polynomial and characteristic equation, Characteristic roots and characteristic vectors.
Week 4. Cayley Hamilton Theorem, Minimal polynomial and minimal equations, student's problem discussion, Assignment.
Week 5. Solution of a system of homogeneous linear equations, solutions of system of non homogeneous linear equations, orthogonal matrix, Unitary matrix.
Week 6. Properties of orthogonal matrices, properties of unitary matrices, problems on orthogonal and unitary matrices, Linear Transformation.
Week 7. Bilinear form, matrix notation of bilinear form, Canonical form of bilinear form, factorizable bilinear form, quadratic form, matrix of quadratic form, Linear transformation of a quadratic form,
Week 8. Diagonalization of a quadratic form, Lagrange's method of diagonalization, factorable quadratic form, student's problem discussion, assignment, class test.
Week 9. Introduction to polynomial and general equation, Factor theorem , synthetic division, Fundamental Theorem of Algebra,
Week 10. Relation between the roots and the coefficients of an equation, solutions of polynomial equations having conditions on roots, finding conditions on coefficients with given conditions on roots.
Week 11. Transformation of equations by changing signs of roots, by multiplying roots with a given number, by reciprocal of roots, by diminishing roots with a given number.
Week 12. Transformation of cubic and biquadratic to the form with one term removed, transformation in general, equation of squared differences of a qubic, student's problem discussion, assignment.
Week 13. Solution of qubic equations by Carden's method, Nature of roots of a qubic, solution of biquadratic equations by Descarte's method,
Week 14. Solution of biquadratic equations by Ferrari's method, Descartes's rule of signs for real roots, student's problem discussion.
Week 15. Revision, assignment and unit test.
Week 16. Revision.

Name of Assistant/ Associate Professor : Mr. Manoj Kumar

Class and section: B.A./B.Sc. 1st Year

Subject: Solid Geometry

Week 1. Co-ordinate geometry of two dimensions, conic section with classifications, general equations of second degree, related problems.
Week 2. Tracings of conics, tangents at any point to the conic, chord of contact, pole of line to the conics, system of conics, related problems.
Week 3. Confocal conics with some examples, Polar equation of conics, equations of tangent and normal in polar form of conis, related problems.
Week 4. Asymptotes and tracing of conics in polar form, introduction to sphere, four point form of a sphere, related problems and assignments, student's problem discussion.
Week 5. Plane section of a sphere, sphere through a circle, intersection of straight line and sphere, equation of tangent plane, related problems.
Week 6. Plane of contact, angle of intersection of two spheres, radical plane of two spheres, co- axal system of spheres, related problems.
Week 7. Introduction to cone, equation of cone, right circular cone, quadratic cone through the axes, enveloping cone , related problems.
Week 8. Tangent to a cone, reciprocal cone, orthogonality of tangent planes to a cone, related problem, student's problem discussion, assignment, unit test.
Week 9. Introduction to cylinders, right circular cylinder, enveloping cylinder, introduction to conicoids, related problems
Week 10. Central conicoids, intersection of a line and a central conicoid, tangent plane to conicoid, equation of normal plane, related problems.
Week11. Director sphere, normals to conicoids, Polar plane of a point, reciprocal property, related problems
Week12. Enveloping cone of a conicoid, enveloping cylinder of a conicoid, Paraboloids, circular section, plane section, related problems and assignments.
Week 13. Tracing of paraboloid, Normal to an elliptic paraboloid, Plane Section, Plane section of conicoids, Generating lines, Confocal Conicoids, Related problems
Week 14. Problems on Generating lines, Second degree equation, Reduction of Second degree equation, Assignment.
Week 15. Doubt discussion, Unit Test, Revision.
Week 16. Revision.

Name of Assistant/ Associate Professor: Mr. Manoj Kumar

Class and section: B.Sc. 2rd Year

Subject: Partial Differential Equations

Week 1. Introduction to Partial Differential Equations, order and degree of PDE, Formation of PDE by removing arbitrary constant and as well as arbitrary function, and related problems.
Week 2. Solution of linear PDE by direct integration, solution of Lagrange's linear equation of various types (I-IV) with examples.
Week 3. Compatible of PDEs of first order, related problems, Charpit's Method for complete integral and related problems, some standard forms PDE in Charpits's Method.
Week 4. Jacobi's Method for complete integral of a PDE, Introduction and solution of homogeneous linear PDE with constant coefficients, doubts discussion and assignment.
Week 5. Solution of non-homogeneous linear PDE with constant coefficients, various methods for finding particular integral, introduction to PDEs with variable coefficients reducible to equations with constant coefficients.
Week 6 . Solution of PDEs with variable coefficients reducible to equations with constant coefficients, classification of second order linear PDEs.
Week 7. Reduction of Hyperbolic, Parabolic and Elliptic PDEs to their canonical forms with examples, solutions of linear hyperbolic equations.
Week 8. Introduction to Monge's Method for PDEs, Monge's method based on two intermediate integrals, Monge's method based on one intermediate integral, assignment, unit test.
Week 9. Monge's method for solving Rr+Ss+Tt+U(rt-s^2)=V, Characteristic equations and characteristic curves of second order partial differential equations.
Week 10. Introduction and solution of Cauchy problem, introduction to Heat, Wave and Laplace equations.
Week 11. Solution of one and two dimensional wave equation by method of separation of variable with and without boundary conditions, assignment.
Week 12. Solution of one and two dimensional heat equation by method of separation of variable with and without boundary conditions,
Week 13. Solution of Laplace equation by method of separation of variable with and without boundary conditions.
Week 14. Doubt discussion and assignments.
Week 15. Revision and unit test.
Week 16 Revision.

Name of Assistant/ Associate Professor: Mr. Manoj Kumar

Class and section: B.A./B.Sc. 2ʳᵈ Year

Subject: Real Analysis

Week2day1. monotonic functions,
Week2day2.   Related problems
Week2,Day3. Assignment
Week2,Day4. The Fundamental theorem of integral calculus.
Week2,Day5. Related problems
week2day6.   Assignment

Week3day1. Mean value theorems
Week3day2. Related problems
Week3Day3. Assignment on mean value theorem
week3day4. Problems on above topic
Week3,Day5.Assignment and related problems
Week3Day6. Practice of questions

Week4day1. Improper integrals
Week4Day2. Related problems
Week4Day3. convergence,
Week4Day4. . Related problem

Week4day5.   Improper integrals and their convergence
Week4,Day6. Related problems
Week5 Day1. Comparison tests,
Week5Day2.   Related problems

Week5day3. Abel's test
Week5day4. Related problems
Week5Day5.   Dirichlet's tests
Week5Day6. Assignment
Week6Day1.Problem solution of Assignment

Week6day2.   Frullani's integral
Week6day3.   Integral as a function of a parameter.
Week6,Day4. Problems
Week6Day5.   Related problems and solution
Week6Day6.   Assignment

Week7day1. Continuity,
Week7Day2. Discontinuity
Week7Day3. Types of Discontinuity
Week7Day4.Related problems

Week7day5.   Differentiability
Week7 day6.   Assignment and problems
Week8,Day1. integrability
Week8Day2. Types of integration
Week8,Day3. Related problems

Week8day4.   integral of a function

Week8,Day5. Problems on integral of a function
Week8Day6. Assignment
Week9Day1. function of a parameter

Week9day2. integrability of an integral of a function of a parameter.
Week9Day3. Related problems
Week9Day3. Unit test
Week9Day4 . Definition and examples of metric spaces

Week9day5. Examples and problems
Week9Day6. neighborhoods
Week10Day1. Examples and problems
Week10,Day2. limit points

Week10day3. Types of limit point
Week10day4. Related problems
Week10Day5. Assignment
Week10,Day6. test

Week11day1. interior points
Week11Day2. open and closed sets,
Week11day3. Related problems
Week11Day4. closure and interior of a set

Week11day5. boundary points
Week11,Day6. Related problems
Week12Day1. subspace of a metric space
Week12Day2. equivalent metrics
Week12day3. Cauchy sequences
week12day4. Related problem
Week12day5. Assignment
week12day6. test
week13day1. completeness
week13day2. Example of completeness
week13day3. Cantor's intersection theorem
week13da Baire's category theorem
week13day5. Related problems
week13day6. Assignment
week14day1. contraction Principle
week14day2. Continuous functions
week14day3. Related problems
week14day5. uniform continuity
week14day6. Assignment
week15day1. compactness for metric spaces,
week15day2. sequential compactness
week15day3. Related problems
week15day4. Bolzano-Weierstrass property
Week15day5. total boundedness
week15day6. Assignment
week16day1. finite intersection
week16day2. continuity in relation with compactness
week16day3. connectedness

week16day4.	components,
week16day5.	continuity in relation with connectedness
week16day6. Assignment	

Name of Assistant/ Associate Professor: Mr. Manoj Kumar

Class and section: B.A./B.Sc.3ʳᵈ Year

Subject lesson plan: Group and Ring

Week1. Binary operation and its properties, Definition and examples of group including addition and multiplication modulo n group, simple properties of groups, definition, examples and properties of subgroups,
Week 2. Generation of groups, criterion for a subset to be a subgroup, theorems on subgroups, cyclic groups and theorems related to cyclic groups, introduction to cosets, index of a subgroup and theorems on costes.
Week 3. Relation of congruence modulo a subgroup, Lagrange's theorem and its consequences, introduction to normal subgroups and simple groups, results on normal subgroups, introduction to quotient groups.
Week 4. Theorems on quotient groups, definitions of homomorphism, epimorphism, isomorphism and automorphism and related results, doubts discussion.
Week 5. Kernel of homomorphism, Fundamental theorems of group homomorphism, introduction to automorphism and group of automorphisms.
Week 6. Inner automorphism and related results, group of automorphisms of a cyclic group, centre of a group, characteristic subgroups and related problems.
Week 7. Normalizer (Centralizer) of an element, normalizer (Centralizer) of a subgroup, introduction to derived group or commutator subgroup and related problems.
Week 8. Introduction to permutation groups, related theorems and problems, Cayley's Theorem, assignment and a complete discussion on groups theory, unit test.
Week 9. Definition and examples of rings, properties and classification of rings, rings without or with zero divisors, integral domain, division ring and related results, subrings and theorems on subrings.
Week 10. Characteristics of a ring and related theorems, introduction and examples of ideals, sum and product of ideals, different types of ideals, simple ring and quotient ring.
Week 11. Introduction to ring homomorphism, kernel of ring homomorphism and related results, Fundamental theorem of ring homomorphism, first and second theorems of isomorphism.
Week 12. Field of quotient of an integral domain, divisibility in a commutative ring, introduction to gcd and lcm in a ring, euclidean ring and results, doubts discussion.
Week 13. Principal ideal domain and related results, introduction to polynomial ring over a ring, over an integral domain and over a field, division algorithm for F[x], Remainder theorem.
Week 14. Definition and related results on unique factorization domain, primitive polynomials, Gauss Lemma, field of quotient of a UFD.
Week 15. Eisenstein irreducibility criterion: proof and applications, assignment and unit test.
Week 16. Revision

Week7day1.   Quotient Group
Week7Day2. Property of Quotient Group
Week7Day3. Homomorphism
Week7Day4. Related theorem

Week7day5. Properties of Homomorphism
Week7day6. Asignments
Week8,Day1. Isomorphism
Week8Day2.Automorphism
Week8,Day3.Related property

Week8day4.Related Examples
Week8,Day5. Inner Automorphism
Week8Day6.Theorem on Inner Automorphism
Week9Day1. Properties of Inner automorphism

Week9day2.Group Automorphism
Week9Day3. Examples
Week9Day3.   Group Automorphism of cyclic group
Week9Day4. Assignment

Week9day5. Related problems
Week9Day6. Permutation group
Week10Day1.Even and odd permutation
Week10,Day2. Properties

Week10day3. Examples
Week10day4 Altering group
Week10Day5. Caley theorem
Week10,Day6. property of Caley theorem

Week11day1. Center of a group
Week11Day2.Drived group of a group
Week11day3. Property of Drived group of a group
Week11Day4. Rings introduction

Week11day5. Subrings
Week11,Day6.   property of a ring and sub ring
Week12Day1. Integral domain
Week12Day2. property of Integral domain
Week12day3. Fields
week12day4. Characteristic of a ring
Week12day5. Ring Automorphism
week12day6. Related problem
week13day1. Ideals
week13day2.left and Right Ideals
week13day3. Principle ,Maximal ideals
week13day4. Related problem
week13day5.Assignment
week13day6. Quotient ring
week14day1. Euclidean ring
week14day2. Polynomial ring
week14day3. Rational fields
week14day5.   Commutative rings
week14day6.Related property
week15day1. UFD
week15day2. R Unique factorization
week15day3. Related property
week15day4. Assignment
Week15day5. test
week15day6. Related problem
week16day1. Revision
week16day2. Problem solution
week16 day3. Revision
week16day4.   Revision
week16day5. Problem solution
week16day6. Problem solution

Lesson Plan

Name of the Assistant/ Associate Professor: **Mr. Manoj Kumar**

Class and Section:. **B. A./B.Sc. 3rd Year (5th Semester)**

Subject: **Numerical Analysis**

Week	Date	Topics
1		Finite difference operators and their relations
		Forward differences
		Backward differences
		Diagonal forward differences table
		Diagonal backward differences table
		Fundamental theorem of differences calculus
		Sunday
2		Difference of some functions
		Properties of operator E
		Finding the missing terms
		Effect of error in a difference tabular values
		One or more missing terms
		Interpolation with equal intervals
		Sunday
3		Assignments
		Newton's forward interpolation formulae
		Newton's forward interpolation formulae with examples
		Newton's backward interpolation formulae
		Newton's backward interpolation formulae with examples
		Interpolation with unequal intervals
		Sunday
4		Vasant Panchami
		Class Test
		Sir Chhotu Ram Jayanti
		Newton's divided difference formulae
		Republic Day
		Newton's divided difference formulae-Exercise
		Sunday
5		Lagrange's interpolation formulae
		Lagrange's interpolation formulae with example

		Hermite formula
		Hermite formula with example
		Relation between divided differences
		Relation between ordinary differences
		Sunday
6		Central differences
		Gauss forward interpolation formula
		Gauss forward interpolation formula-Exercise
		Gauss backward interpolation formulae
		Gauss backward interpolation formulae-Exercise
		Maharshi Dayanand Saraswati Jayanti
		Sunday
7		Assignments
		Maha Shivratri
		Sterling formula
		Sterling formula-Exercise
		Bassel's formula
		Bassel's formula-exercise
		Sunday
8		Class Test
		Probability distribution of random variables
		Bionomial distribution
		Mean of bionomial distribution
		Bionomial distribution with examples
		Varience of bionomial distribution
		Sunday
9		Varience of bionomial distribution-Exercise
		Recurrence formula
		Poisson's distribution
10		Guru Ravidas Birthday
		Holi
		Properties of bionomial distribution
		Sunday
11		Fitting bionomial distribution

			Some uses of poisson's distribution
			Mean of poisson's distribution
			Varience of poisson's distribution
			Recurrence formula
			Assignments
			Sunday
12			Recurrence formula with example
			Fitting a poisson's distribution
			Poisson's distribution-Exercise
			Normal distribution
			Probability density function
			Probability of normal function
			Sunday
13			Standard normal distribution
			Fitting of a normal curve
			Numerical integration
			Newton-cote's quadrature formula
			Shaheedi Diwas of Bhagat Singh, Rajguru & Sukhdev
			Trapezoidal rule
			Sunday/ Ram Navami
14			Class Test
			Simpson's one third rule
			Simpson's three-eighth rule
			Mahavir Jayanti
			Chebychev formula
			Gauss quadrature formula
15			Sunday
			Assignments
			Gauss quadrature formula-Exercise
			Single step method-picard's method
			Taylor's series method
			Euler's method
			Runge-kutta methods
			Sunday

16		Multiple step methods
		Predictor-corrector method
		Class Test
		Modified euler's method
		Milne-simpson's method
		Dr Ambedkar Jayanti / Vaisakhi
		Sunday
17		Revision
		Revision
		Parashurama Jayanti
		Revision
		Revision
		Revision
		Sunday
18		Revision
		Revision
		Revision
		Revision
		Revision
		Revision

Lesson plan

Name of Assistant /Associate Professor : Mr. Manoj Kumar

Class and section : B.A./B.Sc. 2nd Year

Subject lesson plan : P.D .Equation

Week1Day1.Introduction to P.D.E
week1day2. examples of P.D.E and O.D.E
week1day3. Related problems
Week1,Day4.Formation of PDE
Week1,Day5. Formation of PDE by removing constant
week1day6. Related problems

Week2day1. Formation of PDE by removing function
Week2day2. Related problems
Week2,Day3.Order and Degree of PDE.
Week2,Day4.Some example of order and degree
Week2,Day5.Linearty and non linearityof PDE

week2day6. Assignment

Week3day1.problems on linearty
Week3day2. problems on nonlinearty
Week3Day3.Singuler solution of PDE.
week3day4. Particular solution
Week3,Day5.General solution
Week3Day6.Related problems

Week4day1.Lagrange PDE
Week4Day2.Solution by Lagrange method
Week4Day3.Related problems
Week4Day4.Assignment on Lagrange method

Week4day5. Introduction to Charpit method
Week4,Day6. Related problems
Week5,Day1. Compatible system of first order equation
Week5Day2. Jacobi method

Week5day3.   Problems related to Jacobi methode
Week5day4. Assignment related to Jacobi method
Week5Day5. unit test
Week5Day6. problems on unit 1
Week6Day1. Second order PDE Introduction

Week6day2. Related examples
Week6day3. Higher order PDE
Week6,Day4. Solution of Higher order PDE
Week6Day5. Linear PDE
Week6Day6.Non linear PDE

Week7day1.   Related problems on linear PDE
Week7Day2. Related problem on non linear PDE
Week7Day3.Homogenious PDE
Week7Day4.   Non Homogenious PDE

Week7day5. Related problems
Week7day6.   Assignments
Week8,Day1. Non Homogenious PDE with constant coefficient
Week8Day2. Related problem
Week8,Day3. PDE with variable coefficient

Week8day4.   PDE reducible to equation with constant coefficient
Week8,Day5. Assigment
Week8Day6.   Complementary   function
Week9Day1. Particular integral

Week9day2. Related problems
Week9Day3. Classification of Linear PDE
Week 9 Day4. Classification of Linear PDE

Week9day5. PDE 2nd order
Week9Day6. Related problems
Week10Day1. Hyperbolic PDE
Week10,Day2. Related problem

Week10day3. Parabolic PDE
Week10day4. Elliptic PDE
Week10Day5 . Problems related Hyperbolic
Week10,Day6. problem related to Parabolic PDE

Week11day1. problem related to Elliptic PDE
Week11Day2.Assignment
Week11day3. Canonical form
Week11Day4. Normal form and their solution

Week11day5. Monge method
Week11,Day6. Related problems
Week12Day1.   unit test
Week12Day2. Cauchy problems
Week12day3. . Cauchy problems for 2nd order PDE
week12day4. Characteristic equation
Week12day5. Characteristic equation and Characteristic curve
week12day6. Characteristic curve of 2nd PDE
week13day1. Methods of separation for PDE
week13day2   Assignments
week13day3 . Problems on Methods of separation for PD
week13day4. Problems on Characteristic curve of 2nd PDE
week13day5. Laplace equation
week13day6.   Laplace equation and its solution
week14day1. Particular solution of laplace equation
week14day2. Wave equation
week14day3. Problems related to laplace equation
week14day5. Problems related to Wave equation
week14day6. Assignment
week15day1. Two dimensional wave equation
week15day2. Two dimensional laplace equation
week15day3. Heat equation
week15day4. problems on heat equation
Week15day5. Cartesian coordinate
week15day6. Assignment
week16day1. test
week16day2. Revision
week16day3. related problems
week16day4. Revision
week16day5. related problems
week16day6. Problem discussion

Lesson plan

Name of Assistant /Associate Professor : Mr. Manoj Kumar

Class and section : B.Com 1ˢᵗ Year

Subject lesson plan : Business Mathematics

Week1Day1.
week1day2.
week1day3.
Week1,Day4.   Theory of Sets:
Week1,Day5.   Types of sets
week1day6. Meaning of set

Week2day1.
Week2day2.
Week2,Day3
Week2, Day4.   elements,
Week2 ,Day5.   types
week2day6. Assignment

Week3day1.
Week3day2
Week3Day3.
week3day4. presentation andequality of Sets,
Week3,Day5. Related problem
Week3Day6. Union, Intersection

Week4day1.
Week4Day2
Week4Day3.
Week4Day4. Complement and Difference of Sets

Week4day5. Related problem
Week4,Day6.   Venn Diagram
Week5,Day1.
Week5Day2.

Week5day3.
Week5day4. Cartesian Product of two Sets,
Week5Day5. Applications of Set Theory
Week5Day6. Assignment
Week6Day1.

Week6day2.
Week6day3.
Week6,Day4. Permutations
Week6Day5. Related problem
Week6Day6. Type of permutation

Week7day1.
Week7Day2.
Week7Day3.
Week7Day4.   Combination

Week7day5. Type of combination
Week7day6.   Assignments
Week8,Day
Week8Day2.
Week8,Day3.

Week8day4.   Sequence
Week8,Day5. Assignment
Week8Day6. Related problem
Week9Day1.

Week9day2.
Week9Day3.
Week 9 Day4. Series,

Week9day5. A.P
Week9Day6. G.P.
Week10Day1.
Week10,Day2.

Week10day3.
Week10day4. Assignment on G.P
Week10Day5 . Assignment on A.P
Week10,Day6. Related problem

Week11day1.
Week11Day2
Week11day3.
Week11Day4.   Data interpretation

Week11day5. Related problem
Week11,Day6. Assignment
Week12Day1.
Week12Day2
Week12day3. .
week12day4. approaches to data interpretation
Week12day5. Related problem
week12day6. test
week13day1.
week13day2
week13day3 .
week13day4.   tabulation
week13day5. Related problem
week13day6. Assignment
week14day1.
week14day2.
week14day3.
week14day5.   Bar graphs
week14day6.   Related problems
week15day1.
week15day2.
week15day3.
week15day4. Pie charts,
Week15day5. Examples
week15day6.   Related problem
week16day1.
week16day2.
week16day3.
week16 day4. Line graphs
week16day5. Mix graphs.
week16day6. Problem discussion

Lesson Plan

Name of the Assistant/ Associate Professor: **Mr. Manoj Kumar**

Class and Section: **B.Com I**

Subject: **Business Mathematics-II**

Week	Topics
1	Definition of matrices, types of matrices, Basic operations on matrices, Properties of matrix addition with example, Multiplication of matrices
2	Properties of matrix multiplication, Multiplication of matrices-Exercise, Positive integral powers of matrices, Transpose of a matrix, Properties of transpose of a matrix, Symmetric matrices with example.
3	Skew-symmetric matrices with examples , Some results on symmetric and skew-symmetric matrices, Determinant, Determinant of second order, Assignments.
4	Minors, Co-factors, Determinant of third factor, Class Test.
5	Singular matrix with example, Non-singular matrix with example, Properties of determinants, Adjoint of a matrix.
6	Evaluation of a determinant without expanding, Elementary column operations, Elementary row operations, Adjoint of a matrix-Exercise, Inverse of a square matrix.
7	Inverse of a square matrix-Exercise, Inverse of a matrix by using elementary row operation with example, Inverse of a matrix by using elementary column operation with example, Assignments.
8	Solution of a system of a linear equations, Consistent equations, Inconsistent equations, Solution of system of linear equations in two unknown by Cramer's rule, Solution of system of linear equations in three unknown by Cramer's rule, Class Test.
9	Condition for consistency-Exercise, Solution of system of linear equations using a matrix, Introduction to Differentiation.
10	limit of a function, Some theorems on limits, Some important formulae on limits, The derivative of a function, Differential coefficient, Assignments.
11	Derivative of x^n from first principle, Derivative of $(ax+b)^n$ from first principle, General theorems on differentiation, Differentiation of product of two functions, Differentiation of quotient of two functions, Derivative of function of a function(composition of functions).
12	Derivative of logarithmic functions, Differentiation of exponential functions, Differential coefficient of a^x, Differential coefficient of e^x, Differentiation of implicit functions
13	Differentiation of implicit functions-Exercise, Logarithmic differentiation, Differentiation in case of parametric function, Derivative of a function with respect to another function, Class Test
14	Derivatives of higher order, Compound Interest, Certain different types of interest rate, Types of annuities, Present value and amount of an annuity, Assignments
15	Ratio, Proportion, Percentage, Profit, Loss, Class Test
16	Revision
17	Revision

Lesson Plan

Name of the Assistant/ Associate Professor: **Mr. Manoj Kumar**

Class and Section:.   **B.Sc/B. A. First Year (2nd Sem.)**

Subject: **Number Theory and Trigonometry**

Week	Topics
1	Examples on the principle of mathematicial introduction, some important definitions and results, examples for exercise 1.1
2	Some important definitions, examples for Exercise 1.2 and 1.3, Theorems on congruences
3	Examples for exercise 2.1, 2.2, 2.3, linear Diophantine equations and Assignments
4	Fermat's theorem, Wilson's Theorem, examples for exercise 2.3, doubt discussion, class test
5	Examples for exercise 3.2, Chinese remainder theorem, examples for theorem 3.3
6	Euler's formula, Euler's Phi-function and some theorom on Phi function, examples for exercise 4.1
7	Residue (mod m), Examples for exercise 4.2, Greatest integer function, Assignments

8	Some theorems on bracket function, examples for exercise 5.1, doubts discussion, Class Test
9	Divisor function, Mobius function, Examples for exercise 5.2 and 5.3, Quadratic congruence
10	Theorems on Quadratic congruence, examples for exercise 6.1 and 6.2, Properties of Legendre symbol,
11	gauss lemma, Gauss reciprocity law(quadratic reciprocity law), Assignments
12	Demoivre's theorem, nth root of a complex number, solution of equations, examples for exercise 7.1, Examples for exercise 7.2 and 7.3,
13	Expansion of cosn theta and sinn theta ;n being a +ve integer, formation of equations, Exponential function of complex variable, examples for exercise 8.1,
14	Circular function of a complex variable, Hyperbolic functions, , examples for exercise 8.2, 9.1, doubts discussion, Class Test
15	logarithm of complex numbers, General exponential function, general values and principal values, Gregory's series, examples for exercise 9.2, 10.1, 10.2, 11.1
16	Revision
17	Revision

Lesson Plan

Name of the Assistant/ Associate Professor: **Mr. Manoj Kumar**

Class and Section:.   **B. A./B.Sc. 1ˢᵗ Year (2nd Semester)**

Subject: **Ordinary Differential Equations**

Week	Topics
1	Introduction to differential equations, Geometrical meaning of a differential equation, exact differential equation, solution of exact differential equations, integrating factors
2	Integrating factor by inspection, Rule 1, Rule 2, Rule 3, Rule 4 for finding integrating factors
3	Rule 5 for finding the integrated factors, Equations of first order but not of first degree, First order higher degree equations solvable for x, Assignments
4	First order higher degree equations solvable for y, First order higher degree equations solvable for p, Doubt discussion, class test.
5	Lagrange's Equation, Clairaut's Equation, Equations reducible to Clairaut's Equation

6	Singular solutions with example, Orthogonal trajectories in cartesian coordinates, Orthogonal trajectories in polar coordinates, Self orthogonal family of curves,
7	Linear differential equations with constant coefficients, Complementary function and particular integral, Particular integral in first class, Particular integral in second class, Assignments
8	Particular integral in third class, fourth class and fifth class, Homogeneous linear equations, doubt discussion, Class Test
9	Equations reducible to linear equations, Linear differential equations of seconds order, Reduction to normal form, Transformation of the equation by changing the dependent variable.
10	Transformation of the equation by changing the independent variable, Solution by operations of non-homogeneous linear differential equations, Reduction of order of a differential equation.
11	Method of variatons of parameters, Method of undetermined coefficients, Ordinary simultaneous differential equations, Assignments.
12	Solution of simultaneous differential equations involving operations x(d/dx), Solution of simultaneous differential equations involving operations t(d/dt), Simultaneous equation of the form dx/p = dy/q = dz/r, First method of simultaneous equation of the form: Use of operator D
13	Second integral found with the help of first, Total differential equations, Condition for exactness, Class Test
14	Inspection method for solving total differential equations, General method of solving Pdx+Qdy+Rdz=0 by taking one variable constant, Method of solving homogeneous equations
15	Method of Auxiliay Equations, Doubts Discussion, Class test,
16	Revision
17	Revision

Lesson Plan

Name of the Assistant/ Associate Professor: **Mr. Manoj Kumar**

Class and Section:.   **B. A./B.Sc. 1ˢᵗ Year (2nd Semester)**

Subject: **Vector Calculus**

Week	Topics
1	Scalar and vectors, Types of vectors, Properties of vector addition, Scalar product of two vectors, Properties of scalar product, Vector product of two vectors
2	Properties of vector product, Multiple product of vectors, Properties of scalar triple product, Properties of scalar triple product, Vector triple product
3	Expansion formula for vector triple product, Scalar product of four vectors, Vector product of four vectors, Reciprocal system of vectors , Assignments
4	Properties of reciprocal system of vectors, Vector differentiation, Doubt Discussion, Class test.

5	Scalar valued point functions, Vector valued point functions, Derivative along a curve, Directional derivatives, Theorems on limits of a vector function.
6	Continuity of a vector function, Theorem on continuity, Constant curves, Curves for space, Partial derivatives of vector function, Higher order partial derivatives,
7	Rules for finding partial derivatives of a vector, Total differentials, The vector differential operator, Gradient of a scalar product, Assignments
8	Properties of a gradient , Gradient of the product of two scalar point functions, Gradient of quotient of two scalalr functions, doubt discussion, Class Test
9	Geometrical interpretation of gradΦ, Directional deriatives of scalar point function, Equation of a tangent plane and normal to level surface
10	, Angle of intersection between two surfaces, Divergence of a vector function, Properties of divergence, Curl of a vector point function, Properties of curl,
11	Harmonic functions , Orthogonal curvlinear co-ordinates, Second order differential functions, Laplacian operator, Assignments
12	Conditions for orthogonality, Unit vectors in orthogonal colinear co-ordinates , Arc length,Volume element and area element, Fundamental triad of mutually orthogonal unit vectors,
13	Gradient,divergence,curl and laplacian operators in terms of orthogonal curvilinear co-ordinates, Doubt discussion, Class test.
14	Cylindrical co-ordinates, Square of the element of are length in cylindrical co-ordinates, Cylindrical co-ordinate system is orthogonal, Spherical co-ordinates, Spherical polar co-ordinate system is orthogonal,
15	Vector integration, Indefinite and definite integral, Some standard results for integration, Line integral, surface integral, Assignment
16	volume integral, Theorom of gauss, Theorem of Stokes, doubt discussion, class test
17	Revision

Lesson Plan

Name of the Assistant/ Associate Professor: **Mr. Manoj Kumar**

Class and Section:.   **B. A./B.Sc. 2nd Year (4th Semester)**

Subject: **Sequences and Series**

Week	Day	Topics
1		Topology of real numbers.
		Sets .
		Greatest lower bound or infimum and least upper bound or supermum
		Theoroms and examples

		Exercise 1.1
		Neighbourhood of a point
		Sunday
2		Interior of a set
		Examples
		Exercise 1.2
		Exercise 1.2
		Limit pt of a set
		Bolzano weirerstrass theorom.
		Sunday
3		Assignments
		Theorom on closure of a set
		Examples 1.3
		Ampact of a set and heine borel theorom
		Exercise 1.4
		Sequences
		Sunday
4		Vasant Panchami
		Class Test
		Sir Chhotu Ram Jayanti
		Examples of exercise 2.1.
		Republic Day
		Exercise 2.1.
		Sunday
5		Some basic theorom on limits.
		Cauchy's first and second theorom on limits.
		Examples of exercise 2.2.

6		Exercise 2.2
		Monotomic sequences
		Examples of exercise 2.3
		Sunday
7		Exercise 2.3

		Cauchy's sequences
		Exercise 2.4
		Subsequences
		Infinite series
		Maharshi Dayanand Saraswati Jayanti
		Sunday
8		Assignments
		Maha Shivratri
		Exercise 3.1.
		Theoroms on converges
		P series test
		Exercise 3.2
		Sunday
9		Class Test
		Infinite series
		Exercise 4.1
		Cauchy's root test
		Exercise 4.2
		Raube's test
		Sunday
10		Demorgam's and bertrand's test
		Examples of exercise 4.3
		Exercise 4.3
11		Guru Ravidas Birthday
		Holi
		Demorgan test
		Sunday
12		Gauss test
		Exercise 4.5
		Alternating series
		Cauchy integral test
		Exercise 4.6
		Assignments
		Sunday

13		Exercise 5.1
		Arbitrary series
		Examples of 6.1
		Exercise 6.1
		Insertion and removal of parent hesis
		Exercise 6.2
		Sunday
14		Multiplication of series
		Exercise 6.3
		Mertin's theorom
		Able's theorom
		Shaheedi Diwas of Bhagat Singh, Rajguru & Sukhdev
		Exercise 6.4
		Sunday/ Ram Navami
15		Class Test
		Infinte products
		Convergence of an Infinte product
		Mahavir Jayanti
		Examples of exercise 7.1
		Exercise 7.1
16		Sunday
		Assignments
		General principle of convergence of an infinite product
		Some theoroms for proving the convergence of infinite products
		Examples of exercise 7.2
		Absolute convergence of an infinte product
		Examples of exercise 7.2
		Sunday
17		Exercise 7.2
		Revision
		Class Test
		Revision
		Revision
		Dr Ambedkar Jayanti / Vaisakhi

Week	Date	Topics
		Sunday
18		Revision
		Revision
		Parashurama Jayanti
		Revision
		Revision
		Revision
		Sunday
19		Revision
		Revision
		Revision
		Revision
		Revision
		Revision

Lesson Plan

Name of the Assistant/ Associate Professor: **Mr. Manoj Kumar**

Class and Section:. **B. A./ B.Sc. 2nd Year (4th Semester)**

Subject: **Special Functions and Integral Transforms**

Week	Date	Topics
1		Power series,convergence of power series
		Exercise 1.1
		Operation on power series
		Exercise 1.2
		Ordinary and singular points of differential equations
		Exercise 1.3
		Sunday
2		Existence of power series solution with examples
		Exercise 1.4
		Frobenius method with examples
		Exercise 1.5
		When the roots of an identical equation are equal say m_1 each

		Exercise 1.6.
		Sunday
3		Assignments
		When the roots of indentical equation are unequal and differ by an integer making coefficients of y infinite
		Exercise 1.7
		When the roots of indentical equation are unequal and differ by an integer making coefficients ideterminate
		Exercise 1.8
		Beta and gamma function, bessel's function
		Sunday
4		Vasant Panchami
		Class Test
		Sir Chhotu Ram Jayanti
		Recurrence relation for bessel's functions
		Republic Day
		Exercise 2.1
		Sunday
5		General function for $j_n(x)$
		Equations reducible to bessel's equations
		Example and exercise 2.3
6		Solution of legendre's equation
		Rodrigue's formula
		Generating for $P_n(x)$
		Sunday
7		Exercise 3.1
		Recurrence solutions
		Exercise 3.2
		Orthogonality of a legendre polynomial
		Exercise 3.3
		Maharshi Dayanand Saraswati Jayanti
		Sunday
8		Assignments
		Maha Shivratri
		Hermite's equation

		Solution of hermite's equation
		Derivation of hermite polynomials rodrigue's formula
		Examples of exercise 4.1
		Sunday
9		Class Test
		Defination of laplace transformation of some elementory function
		Exercise 5.1
		First shifting property and formulae
		Exercise 5.2
		Piece wise contuinity of a function with intervals
		Sunday
10		Examples and exercise 5.3
		Laplace transforms of derivatives
		Exercise 5.4
11		Guru Ravidas Birthday
		Holi
		Laplace transform of integrals
		Sunday
12		Inverse laplace transform
		Other method for finding inverse transforms
		Exercise 6.1 and convolution theorom
		Application of laplace transforms in integral equations
		Examples and exercise 7.1
		Assignments
		Sunday
13		Solution of linear differential equations with constant coefficient s by transform method
		Examples and exercise 8.1
		Solution of ordinary differential equations with variable coefficient by transform method
		Exercise 5.2
		Solution of a simultaneous linear equations with constant coefficients by transform method
		Exercise 8.3
		Sunday
14		Exercise 8.3
		Infinite fourier transform

		Examples of exercise 9.1
		Exercise 9.1
		Shaheedi Diwas of Bhagat Singh, Rajguru & Sukhdev
		Fourier sine and cosine transforms
		Sunday/ Ram Navami
15		Class Test
		Exercise 9.2
		Examples based on inverse transforms
		Mahavir Jayanti
		Exercise 9.3
		Convaluation and theoroms
16		Sunday
		Assignments
		Examples of exercise 9.4
		Exercise 9.4
		The finite sine and cosine transform of fn
		Examples of exercise 9.5
		Exercise 9.5
		Sunday
17		Solution of differential equations by fourier transforms
		Examples of exercise 10.1
		Class Test
		Examples of exercise 10.1
		Exercise 10.1
		Dr Ambedkar Jayanti / Vaisakhi
		Sunday
18		Revision
		Revision
		Parashurama Jayanti
		Revision
		Revision
		Revision
		Sunday

19		Revision
		Revision
		Revision
		Revision
		Revision
		Revision

Lesson Plan

Name of the Assistant/ Associate Professor: **Mr. Manoj Kumar**

Class and Section: **B. A./B.Sc. 2ⁿᵈ Year (4th Semester)**

Subject: **Programming in C and Numerical Methods**

Week	Date	Topics
1		Computers:a general introduction
		Programmers's model of a computer
		Some computer technologies
		Algorithm
		Flowcharts
		Introduction to C
		Sunday
2		Data-types
		Execution of C program
		Operators and expressions
		Arithmetic operators
		Arithmetic operators
		Arithmetic operators
		Sunday
3		Assignments
		Assignment operators
		Conditional operators.
		Bitwise's operators.
		Bitwise's operators.
		Decision central structures.
		Sunday

4		Vasant Panchami
		Class Test
		Sir Chhotu Ram Jayanti
		Central structures
		Republic Day
		The if statement
		Sunday
5		The if….. else staement
		Nested if ….. else statement and The else if ladder
		The switch statement
		The goto statement
		Some typical examples
		Loops,type of loops
		Sunday
6		The while statement
		The for statement
		The do-while statement
		The for loop
		Nested control structures
		Maharshi Dayanand Saraswati Jayanti
		Sunday
7		Assignments
		Maha Shivratri
		The break statement
		The continue statement
		Some typical examples
		Functions
		Sunday
8		Class Test
		Function declaration or function prototyping
		Local and global variables
		Local and global variables
		The C preprocessor

		Macros
		Sunday
9		Arrays
		Declaration of one or two dimensional arrays
		Puppelting of strings
10		Guru Ravidas Birthday
		Holi
		Structures.
		Sunday
11		Unions.
		Pointers.
		Files in C.
		Solution of algebraic and transcedental equations.
		Bolzano or bisectio method.
		Assignments
		Sunday
12		Bisection method-Exercise
		Method of regula falsi
		Regula falsi method with example
		Order of convergence of regula falsi method
		Secant method
		Secant method-Exercise
		Sunday
13		Newton-Raphson method
		Geometrical derivation of newton-raphson Method
		Order of convergence of newton-raphson method
		Some problems on newton raphson method
		Shaheedi Diwas of Bhagat Singh, Rajguru & Sukhdev
		Comparison of iterative method
		Sunday/ Ram Navami
14		Class Test
		Newton-raphson iterative formula for finding the inverse,square roots
		Simultaneous linear algebraic equations

		Mahavir Jayanti
		Gauss elimination method
		Gauss elimination method with example
15		Sunday
		Assignments
		Gauss-jordan method.
		Gauss-jordan method with example.
		Triangularisation method.
		Triangularisation method with example.
		Cholesky decomposition method.
		Sunday
16		Cholesky decomposition method with example.
		Crout's method.
		Class Test
		Crout's method with example.
		Revision
		Dr Ambedkar Jayanti / Vaisakhi
		Sunday
17		Revision
		Revision
		Parashurama Jayanti
		Revision
		Revision
		Revision
		Sunday
18		Revision
		Revision
		Revision
		Revision
		Revision
		Revision

Lesson Plan

Name of the Assistant/ Associate Professor: **Mr. Manoj Kumar**

Class and Section: **B. A./B.Sc. 3rd Year (6th Semester)**

Subject: **Real and Complex Analysis**

Week	Date	Topics
1		Jacobians ,chain rule for jacobian
		Examples of exercise 1.1
		Exercise 1.1
		Problems of exercise 1.1
		Functional dependence or non dependence
		Example of exercise 1.2
		Sunday
2		Exercise 1.2
		Problems of exercise 1.2
		Beta function, property of beta function
		Theorom 2.2.3
		Example of exercise 2.1
		Example of exercise 2.1
		Sunday
3		Assignments
		Exercise 2.1
		Exercise 2.1
		Problems of exercise 2.1
		Gamma function,Recurrence formula for gamma function
		Relation between beta and gamma function
		Sunday
4		Vasant Panchami
		Class Test
		Sir Chhotu Ram Jayanti
		Examples of exercise 2.2
		Republic Day
		Examples of exercise 2.2
		Sunday
5		Examples of exercise of 2.2

		Examples of exercise 2.2
		Exercise 2.2

		Problems of exercise 2.2
		Double integral,evaluation of double integrals
		Examples of exercise 3.1
		Sunday
6		Substitution method for double integrals
		Examples of exercise 3.1
		Exercise 3.1
		Exercise 3.1
		Triple integral
		Maharshi Dayanand Saraswati Jayanti
		Sunday
7		Assignments
		Maha Shivratri
		Examples of exercise 3.2
		Exercise 3.2
		Exercise 3.2
		Application of double and triple integrals for finding area and volume of surfaces
		Sunday
8		Class Test
		Examples of exercise 3.3
		Exercise 3.3
		Dirichlet's integral
		Examples of exercise 3.4
		Examples of exercise 3.4
		Sunday
9		Exercise 3.4.
		Exercise 3.4 and problems of exercise 3.4.
		Change of order of integration
10		Guru Ravidas Birthday
		Holi

		Examples and exercise 3.5.
		Sunday
11		Fourier series, even function, odd function, periodic functions
		Examples of exercise 4.1.
		Exercise 4.1.
		Fourier expansion of functions having points on discontinuting and examples of exercise 4.2.
		Exercise 4.2.
		Assignments
		Sunday
12		Change of interval
		Examples of exercise 4.3.
		Parserval's identity for fourier series
		Exercise 4.3.
		Problems of exercise 4.3.
		Test of chapter 4
		Sunday
13		Stereographic projection of complex numbers
		Continuity of a complex function and examples of exercise 5.1.
		Exercise 5.1.
		Analytical function,cauchy-riemann equations (c-r equations)
		Shaheedi Diwas of Bhagat Singh, Rajguru & Sukhdev
		Harmonic functions and examples of exercise 5.2.
		Sunday/ Ram Navami
14		Class Test
		Construction of an analytical function
		Exercise 5.2.
		Mahavir Jayanti
		Exercise 5.2.
		Multivalued function,the exponential function
15		Sunday
		Assignments
		1. Examples of exercise 6.1.
		1. Exercise 6.1.

Week	Date	Topics
		1. Conformal mapping,linear transformation
		Inverse points and examples of exercise 6.2.
		Exercise 6.2.
		Sunday
16		Test of chapter 6
		Exponential transformation $w=e^z$
		Class Test
		Examples of exercise 7.1
		Exercise 7.1.
		Dr Ambedkar Jayanti / Vaisakhi
		Sunday
17		Revision
		Revision
		Parashurama Jayanti
		Revision
		Revision
		Revision
		Sunday
18		Revision
		Revision
		Revision
		Revision
		Revision
		Revision

Lesson Plan

Name of the Assistant/ Associate Professor: **Mr. Manoj Kumar**

Class and Section:. **B. A./B.Sc. 3rd Year (6th Semester)**

Subject: **Linear Algebra**

Week	Date	Topics
1		Vector space
		Examples of exercise 1.1

		Exercise 1.1
		Theoroms on subspaces
		Examples of exercise 1.1
		Exercise 1.1
		Sunday
2		Linear sum of subspaces
		Exercise 1.2
		Linear sum of subspaces
		Disjoint subspaces
		Examples of exercise 1.3
		Exercise 1.3
		Sunday
3		Assignments
		Linear combination of vectors
		Examples of exercise 2.1
		Exercise 2.1
		Spanning sets,linear span
		Exercise 2.2
		Sunday
4		Vasant Panchami
		Class Test
		Sir Chhotu Ram Jayanti
		Basis of vector space
		Republic Day
		Maximal linearly independent set
		Sunday
5		Examples of exercise 2.3
		Exercise 2.3
		Identical spaces
		Examples of Exercise 2.4
		Exercise 2.4
		Theorom 3.2 dimension of a quotient space
		Sunday
6		Examples of exercise 3.1
		Exercise 3.1

		Linear transformation or vector space homomorphism
		Examples of exercise 4.1
		Exercise 4.1
		Maharshi Dayanand Saraswati Jayanti
		Sunday
7		Assignments
		Maha Shivratri
		Problem of exercise 4.1
		Vector space isomarphism
		Examples of exercise 4.2
		Examples of exercise 4.2
		Sunday
8		Class Test
		Exercise 4.2
		Problem of exercise 4.2
		To find the linear transformation t,examples of exercise 4.3
		Exercise 4.3
		Null space or kernel of a linear transformation
		Sunday
9		Range or image of a linear transformation
		Fundamental theorom of a vector space homomorphism
		Rank and nullity of a linear transformation
10		Guru Ravidas Birthday
		Holi
		Examples of exercise 5.1
		Sunday
11		Exercise 5.1
		Sum of linear transformations
		Examples of exercise 6.1
		Exercise 6.1
		Singular and non singular transformation
		Assignments
		Sunday
12		Examples of exercise 6.2

		Exercise 6.2
		Invertible linear transformation
		Exercise 6.3
		Coordinate vector and matrix of a linear transformation relative to ordered basis
		Exercise 7.1
		Sunday
13		Theoroms of exercise 7.2 and exercise 7.2
		Exercise 7.3
		Vector space of all linear transformations
		Examples of exercise 8.1
		Shaheedi Diwas of Bhagat Singh, Rajguru & Sukhdev
		Exercise 8.1
		Sunday/ Ram Navami
14		Class Test
		Eigen values and eigen vectors of a linear transformations
		Examples and exercise 9.1
		Mahavir Jayanti
		Minimial polynomial
		Exercise 9.2
15		Sunday
		Assignments
		Inner product spaces and examples, orthogonal vectors and orthogonal complement.
		Bessel's inequality
		Gramschmiolt orthogonalization process
		Exercise 10.1
		Adjoint operator
		Sunday
16		Theoroms on linear operators
		Theorom on eigen values
		Class Test
		Exercise 11.1
		Problem of Exercise 11.1
		Dr Ambedkar Jayanti / Vaisakhi

		Sunday
17		Revision
		Revision
		Parashurama Jayanti
		Revision
		Revision
		Revision
		Sunday
18		Revision
		Revision
		Revision
		Revision
		Revision
		Revision