Course Outcomes

The course outcomes (CO) are mapped to the revised Bloom's Taxonomy using the following abbreviations:

R- Remembering, **U** – Understanding, **Ap**- Applying, **An**- Analyzing , **E**- Evaluating, **C**- Creating

Under Graduate Programmes

Bachelor of Science (B.Sc)

Programme: B.Sc

Programme Specific Outcomes (PSOs) for B.Sc,Mathematics

Si.No	On completingB.Sc,Mathematics the student will be able to:
PSO 1	1. The students learn basic Mathematical skills of solving differential equations which help in generating mathematical models in various fields.
PSO 2	2. The concepts of '3-dimensional geometry' which has applications in Space Science and GPS.
PSO 3	3. Students learn basic Mathematical concepts of Abstract algebra which plays a vital role in developing various logical tools for computer science & electronics,
PSO 4	4. Students learn Real analysis which develops logical & analytical thinking ability
PSO 5	5. Students learn Linear Algebra with Matrix theory which helps in solving system of equations and use the same for solving various real-life problems and in image processing.
PSO 6	6. Also, students learn Vector calculus , Rings,Laplace Transform , Integral Transform & Numerical Analysis which has lot of applications Science and technology.

Course Outcomes (COs): B.Sc Mathematics

Semester I

Course Title: Differential Equations

Course Code:21-MAT-101

Si.No	On completing the course, the student will be able to:	PSOs addressed	Cognitive levels
CO 1	Solve linear differentialequations and higher order differentialequations	PSO1	R
CO 2	Convert non exact homogeneous equations to exact differential equations by using integrating factors.	PSO1	U
CO 3	Know the methods of finding solutions of differential equations of the first order but not of the firstdegree.	PSO1	C
CO 4	Solve higher-order linear differential equations, both homogeneous and non homogeneous, withconstantcoefficients.	PSO1	AN
CO 5	Understand the concept and apply appropriate methods for solving differentialequations.	PSO1	AP

Semester III

Course Title: Real analysis and its applications

Course Code: 21-MAT-301

Si.No	On completing the course, the student will be able to:	PSOs addressed	Cognitive levels
CO 1	Get clear idea about the real numbers, real valuedfunctions, continuity, differential, Reimann Integration and application	**PSO 4 & PSO 5**	**U , AP**
CO 2	Student can understand the concepts geometrically and Students can analyze the difference between continuity, uniform continuity, differentiation, Reimann Integration and applications.	**PSO 4**	**U , AN**
CO 3	Test the continuity, uniform continuity ,differentiability and Riemann integration of afunction.	**PSO 4**	**AP , E**
CO 4	Students can apply the above knowledge in the real life situations.	**PSO 4 & PSO 5**	**C , AP**

Course Title: LAPLACE   TRANSFORM

Course Code: 21-MAT-502

Si.No	On completing the course, the student will be able to:	PSOs addressed	Cognitive levels
CO 1	Know about the Laplace transform ,Inverse Laplace transform and its properties.	**PSO 1 & PSO 6**	**R , E**
CO 2	Understand the concepts of First shifting theorem, Second shifting theorem and change of scale property.	**PSO 1 & PSO 6**	**U , E**
CO 3	Discuss Bessel function and Fundamental theorem for periodic functions.	**PSO 1 & PSO 6**	**AN , AP**
CO 4	Apply the knowledge of Multiplication by t and Division by t, while solving the problems	**PSO 1 & PSO 6**	**AP , E**
CO 5	Use the Convolution Theorem and Heaviside's Expansion formula to find the problems of Inverse Laplace transform.	**PSO 1 & PSO 6**	**AP , AN**
CO 6	Compare Second shifting , change of scale properties in Laplace transform and Inverse Laplace transforms.	**PSO 1 & PSO 6**	**AP , E**

Course Outcomes (COs): B.Sc Mathematics

Semester II

Course Title: 3-D Geometry (Solid Geometry)

Course Code: 3-D Geometry (Solid Geometry)

Si.No	On completing the course, the student will be able to:	PSOs addressed	Cognitive levels
CO 1	Learn about concepts and equations of Plane, Straight line, Sphere, Cone and Cylinder.	**PSO 2 & PSO 5**	**R**
CO 2	Define the concepts of Plane, Straight line, Sphere, Cone and Cylinder.	**PSO 2 & PSO 5**	**U**
CO 3	Explain the equations of Plane, Straight line, Sphere, Cone and Cylinder	**PSO 2 & PSO 5**	**AP**
CO 4	Determine the equations of Plane, Straight line, Sphere, Cone and Cylinder with the given data.	**PSO 2 & PSO 5**	**AN**
CO 5	Use the knowledge of equations of Plane, Straight line, Sphere, Cone and Cylinder in real world problems.	**PSO 2 & PSO 5**	**AP , E**
CO 6	Distinguish between 2Dimensional objects and 3Dimensional objects .	**PSO 2 & PSO 5**	**C , AN**

Course Outcomes (COs): B.Sc Mathematics

Semester -IV

Course Title: Abstract Algebra

Course Code:21-MAT-4C4

Si.No	On completing the course, the student will be able to:	PSOs addressed	Cognitive levels
CO 1	Identify algebraic structures with their corresponding binary operations.	PSO 3	R , U
CO 2	Genaralize the concept of groups to subgroups, normal subgroups ,Quotient group. Cyclic group and permutation groups.	PSO 3	U , AP
CO 3	Explain the significance of the notions of Homomorphism,Isomorphism and Automorphism.	PSO 3	AP , AN
CO 4	Apply the concepts of groups while solving the problems.	PSO 3	AP , E
CO 5	Compare subgroups, normal subgroups and Quotient group.	PSO 3	AP , C
CO 6	Analyze and distinguish types of homomorphism.	PSO 3	AN

Course Outcomes (COs): B.Sc Mathematics

Semester IV

Course Title: LINEAR ALGEBRA

Course Code: 21-MAT-4C5

Si.No	On completing the course, the student will be able to:	PSOs addressed	Cognitive levels
CO 1	Know about Matrices, Vector Space, Linear Transformation and Inner Product Space.	PSO 1, PSO 5 & PSO 6	R
CO 2	Understand the concepts of Vector Space, Basis and Dimensions, Linear Transformation, Rank Nullity Theorem.	PSO 1, PSO 5 & PSO 6	U
CO 3	Discuss Rank of the matrix, Characteristic roots and values, Cayley's Hamilton Theorem, Inner Product and Orthogonal vectors.	PSO 1, PSO 5 & PSO 6	AN
CO 4	Apply the knowledge of Vector Space, Basis and Dimensions and Rank Nullity Theorem while solving the problems	PSO 1, PSO 5 & PSO 6	AP
CO 5	Use the Gram-Schmidt of orthogonalisation process to find the orthonormal basis.	PSO 1, PSO 5 & PSO 6	AN , E
CO 6	Compare Cauchy's Schwartz inequality and Bessel's inequality.	PSO 1, PSO 5 & PSO 6	E , C

Syllabus, 2021-22 (Under Graduate)

Bachelor of Science (B.Sc)

VISHVODAYA GOVT DEGREE COLLEGE,VENKATAGIRI

I B.Sc., MATHEMATICS SYLLABUS (w.e.f. 2021-22)

SEMESTER-I, PAPER-I   21-MAT-101

UNIT – I (12 Hours)

Differential Equations of first order and first degree:

Linear Differential Equations; Differential equations reducible to linear form; Exact differential equations; Integrating factors; Change of variables.

UNIT – II (12 Hours)

Orthogonal Trajectories Differential Equations of first order but not of the first degree:

Equations solvable for p; Equations solvable for y; Equations solvable for x; Equations that do notcontain x (or y); Equations homogeneous in x and y;Equations of the first degree in x and y – Clairaut'sEquation.

UNIT – III (12 Hours)

Higher order linear differential equations-I:

Solution of homogeneous linear differential equations of order n with constant coefficients; Solution of the non-homogeneous linear differential equations with constant coefficients by means of polynomial operators.General Solution of f(D).y=0.

General Solution of f(D)y=Q when Q is a function of x,

$f(D)y = Q$ when Q= be^{ax} P.I. of $f(D)y = Q$ when Q is bsinax or bcos ax.

UNIT – IV (12 Hours)

Higher order linear differential equations-II:

Solution of the non-homogeneous linear differential equations with constant coefficients.

P.I. of $f(D)y = Q$ when Q= bx^k

P.I. of $f(D)y = Q$ when Q= $e^{ax}V$ **,** where V is a function of x.

P.I. of $f(D)y = Q$ when Q= xV **,** where V is a function of x.

P.I. of $f(D)y = Q$ when Q= x^mV **,** where V is a function ofx.

UNIT –V (12 Hours)

Higher order linear differential equations-III :

Method of variation of parameters; Linear differential Equations with non-constant

coefficients; The Cauchy-Euler Equation, Legendre's linear equations, miscellaneous differential equations.

Co-Curricular Activities(15 Hours)

Seminar/ Quiz/ Assignments/ Applications of Differential Equations to Real life Problem /Problem Solving.

VISHVODAYA GOVT DEGREE COLLEGE,VENKATAGIRI

B.Sc. SECOND YEAR MATHEMATICS SYLLABUS

SEMESTER – III, PAPER-III

REAL ANALYSIS 60 Hrs

21-MAT-301

UNIT – I (12 hrs) : SEQUENCES AND SERIES
Real Sequences: Sequences and their limits, Range and Boundedness of Sequences, Limit of a sequence and Convergent sequence. The Cauchy's criterion, properly divergent sequences – Cauchy Sequences – Cauchy's general principle of convergence theorem. (One short answer question is to be set from sequences)
Series: Introduction to series, convergence of series. Cauchy's general principle of convergence for series tests for convergence of series, Series of Non-Negative Terms. P-test - Cauchy's n_{th} root test or Root Test - D-Alembert's Test or Ratio Test - Alternating Series – Leibnitz Test - Absolute convergence and conditional convergence. (One short answer and TWO essay question is to be set from series)

UNIT – II (12 hrs) : LIMITS AND CONTINUITY :
Limits : Real valued Functions, Boundedness of a function, Limits of functions.
Continuity: Continuous functions, Combinations of continuous functions, Continuous Functions on intervals, uniform continuity.

UNIT – III (12 hrs) : DIFFERENTIATION AND MEAN VALUE THEOREMS :
The derivability of a function, at a point, on an interval, Graphical meaning of the Derivative, Mean value Theorems, Rolle's Theorem, Lagrange's Theorem, Cauchy's Mean value Theorem.

UNIT –IV (12 hrs) : RIEMANN INTEGRATION :
Riemann Integral, Darboux theorem. Necessary and sufficient condition for R – integrability, Properties of integrable functions, Fundamental theorem of integral calculus, integral as the limit of a sum.

UNIT – V (12 hrs) : APPLICATIONS OF DIFFERENTIATION AND INTEGRATION
Applications of derivatives to Papulation Dynamics, Radioactive decay, Forensic Science, Carbon dating, Micro-biology, Applications of orthogonal Trajectories.

Reference Books :
1. Real Analysis by Rabert & Bartely and .D Sherbart, Published by John Wiley.
2. A Text Book of B.Sc Mathematics by B.V.S.S. Sarma and others, Published by S. Chand & Company Pvt. Ltd., New Delhi.
3. Elements of Real Analysis as per UGC Syllabus by Shanthi Narayan and Dr. M.D. Raisingkania Published by S. Chand & Company Pvt. Ltd., New Delhi.

Suggested Activities:

Seminar/ Quiz/ Assignments/ Project on Real Analysis and its applications

III B.Sc., V Semester Examinations   **21-MAT-502**

PART – II, MATHEMATICS

Paper –VI , LAPLACE TRANSFORMS 60 Hrs

UNIT – 1 (12 hrs) Laplace Transform I : -

Definition of - Integral Transform – Laplace Transform Linearity, Property, Piecewise continuous Functions, Existence of Laplace Transform, Functions of Exponential order, and of Class A.

UNIT – 2 (12 hrs) Laplace Transform II : -

First Shifting Theorem, Second Shifting Theorem, Change of Scale Property, Laplace Transform of the derivative of f(t), Initial Value theorem and Final Value theorem.

UNIT – 3 (12 hrs) Laplace Transform III : -

Laplace Transform of Integrals – Multiplication by t, Multiplication by t^n – Division by t. Laplace transform of Bessel Function, Laplace Transform of Error Function, Laplace Transform of Sine and cosine integrals.

UNIT –4 (12 hrs) Inverse Laplace Transform I : -

Definition of Inverse Laplace Transform. Linearity, Property, First Shifting Theorem, Second Shifting Theorem, Change of Scale property, use of partial fractions, Examples.

UNIT –5 (12 hrs) Inverse Laplace Transform II : -

Inverse Laplace transforms of Derivatives–Inverse Laplace Transforms of Integrals – Multiplication by Powers of „P‟– Division by powers of „P‟– Convolution Definition – Convolution Theorem – proof and Applications – Heaviside‟s Expansion theorem and its Applications.

Reference Books :-

1. Laplace Transforms by A.R. Vasistha and Dr. R.K. Gupta Published by Krishna Prakashan Media Pvt. Ltd. Meerut.

2. Fourier Series and Integral Transforms by Dr. S. Sreenadh Published by S.Chand and Co., Pvt. Ltd., New Delhi.

3. Laplace and Fourier Transforms by Dr. J.K. Goyal and K.P. Gupta, Published by Pragathi

Prakashan, Meerut.

4. Integral Transforms by M.D. Raising hania, - H.C. Saxsena and H.K. Dass Published by S. Chand

and Co., Pvt.Ltd., New Delhi.

Suggested Activities:

Seminar/ Quiz/ Assignments

I B.Sc., SEMESTER – II : MATHEMATICS (Subject) PAPER – II

Title of the Paper:THREE DIMENSIONAL ANALYTICAL SOLID GEOMETRY

Syllabus (75 Hours)

Course Outcomes:

After successful completion of this course, the student will be able to;

1. get the knowledge ofplanes.

2. basic idea of lines, sphere and cones.

3. understand the properties of planes, lines, spheres and cones.

4. express the problems geometrically and then to get thesolution.

Course Syllabus:

UNIT – I   (12hrs)

The Plane : Equation of plane in terms of its intercepts on the axis, Equations of the plane through the given points, Length of the perpendicular from a given point to a given plane, Bisectors of angles between two planes, Combined equation of two planes, Orthogonal projection on a plane.

UNIT – II (12 hrs)

The Line :

Equation of a line; Angle between a line and a plane; The condition that a given line may lie in a given plane; The condition that two given lines are coplanar; Number of arbitrary constants in the equations of straight line; Sets of conditions which determine a line; The shortest distance between two lines; The length and equations of the line of shortest distance between two straight lines; Length of the perpendicular from a given point to a given line.

UNIT – III (12 hrs)

The Sphere :

Definition and equation of the sphere; Equation of the sphere through four given points; Plane sections of a sphere; Intersection of two spheres; Equation of a circle; Sphere through a given circle;Intersection of a sphere and a line; Power of a point; Tangent plane; Plane of contact; Polar plane; Pole of a Plane; Conjugate points; Conjugate planes;

UNIT – IV (12 hrs)

The Sphere and Cones :

Angle of intersection of two spheres; Conditions for two spheres to be orthogonal; Radical plane; Coaxial system of spheres; Simplified from of the equation of two spheres.

Definitions of a cone; vertex; guiding curve; generators; Equation of the cone with a given vertex and guiding curve; equations of cones with vertex at origin are homogenous; Condition that the general equation of the second degree should represent a cone;

UNIT – V (12 hrs)

Cones:

Enveloping cone of a sphere; right circular cone: equation of the right circular cone with a given vertex, axis and semi vertical angle: Condition that a cone may have three mutually perpendicular generators; intersection of a line and a quadric cone; Tangent lines and tangent plane at a point; Condition that a plane may touch a cone; Reciprocal cones; Intersection of two cones with a common vertex.

Co-Curricular Activities(15 Hours)

Seminar/ Quiz/ Assignments/Three dimensional analytical Solid geometry and its applications/ Problem Solving.

Reference Books :

1. Analytical Solid Geometry by Shanti Narayan and P.K. Mittal, published by S. Chand & Company Ltd. 7th Edition.

2. A text book of Mathematics for BA/B.Sc Vol 1, by V Krishna Murthy & Others, publishedby S. Chand & Company, New Delhi.

3.A text Book of Analytical Geometry of ThreeDimensions,by P.K. Jain and Khaleel Ahmed, published by Wiley Eastern Ltd.,1999.

4. Co-ordinate Geometry of two and three dimensions by P. Balasubrahmanyam, K.Y.Subrahmanyam,

5.G.R. Venkataraman published by Tata-MC Gran-Hill Publishers Company Ltd., New Delhi.

6. Solid Geometry by B.Rama Bhupal Reddy, publish

Text Book :

Differential Equations and Their Applications by Zafar Ahsan, published by Prentice-Hall ofIndia Pvt. Ltd, New Delhi-Secondedition.

Reference Books :

1. A text book of Mathematics for B.A/B.Sc, Vol 1, by N. Krishna Murthy & others, published byS.Chand & Company, NewDelhi.

2. Ordinary and Partial Differential Equations by Dr. M.D,Raisinghania, published by S. Chand &Company, New Delhi.

3. Differential Equations with applications and programs – S. Balachandra Rao & HR Anuradha- Universities Press.

Differential Equations -Srinivas Vangala & Madhu Rajesh, published by Spectrum UniversityPress.

SEMESTER-IV, PAPER-IV

ABSTRACT ALGEBRA   **60 Hrs**

UNIT – I (12 Hours)

GROUPS : Binary Operation – Algebraic structure – semi group-monoid – Group definition and elementary properties Finite and Infinite groups – examples – order of a group, Composition tables with examples.

UNIT – II (12 Hours)

SUBGROUPS : Complex Definition – Multiplication of two complexes Inverse of a complex-Subgroup definition- examples-criterion for a complex to be a subgroups. Criterion for the product of two subgroups to be a subgroup-union and Intersection of subgroups. Co-sets and Lagrange's Theorem : Cosets Definition – properties of Cosets–Index of a subgroups of a finite groups–Lagrange's Theorem.

UNIT –III (12 Hours)

NORMAL SUBGROUPS : Definition of normal subgroup – proper and improper normal subgroup–Hamilton group – criterion for a subgroup to be a normal subgroup – intersection of two normal subgroups – Sub group of index 2 is a normal sub group –quotient group – criteria for the existence of a quotient group. **HOMOMORPHISM** : Definition of homomorphism – Image of homomorphism elementary properties of homomorphism – Isomorphism – automorphism definitions and elementary properties–kernel of a homomorphism – fundamental theorem on Homomorphism and applications.

UNIT – IV (12 Hours)

PERMUTATIONS AND CYCLIC GROUPS : Definition of permutation – permutation multiplication – Inverse of a permutation – cyclic permutations – transposition – even and odd permutations – Cayley's theorem. **Cyclic Groups** :- Definition of cyclic group – elementary properties – classification of cyclic groups

UNIT – V (12 Hours)

RINGS : Definition of Ring and basic properties, Boolean Rings, divisors of zero and cancellation laws Rings, Integral Domains, Division Ring and Fields, The characteristic of a ring - The characteristic of an Integral Domain, The characteristic of a Field. Sub Rings, Ideals

Co-Curricular Activities(15 Hours)

Seminar/ Quiz/ Assignments/ Group theory and its applications / Problem Solving

Text Book : A text book of Mathematics for B.A. / B.Sc.
by B.V.S.S. SARMA and others, published by S.Chand &
Company, New Delhi.

Reference Books :

1. Abstract Algebra by J.B. Fraleigh, Published by Narosa
publishing house.

2. Modern Algebra by M.L. Khanna.

3. Rings and Linear Algebra by Pundir & Pundir,
published by Pragathi Prakashan

VISHVODAYA GOVT DEGREE COLLEGE,VENKATAGIRI
III B.Sc., MATHEMATICS SYLLABUS (w.e.f. 2020-21)
SEMESTER-IV, PAPER-VQP :21--MAT-4C5
CORE ELECTIVE: LINEAR ALGEBRA   60 Hrs

UNIT – I (12 Hours)

Vector Spaces-I:

Vector Spaces, General properties of vector spaces, n-dimensional Vectors, addition and scalar multiplication of Vectors, internal and external composition, Null space, Vector subspaces, Algebra of subspaces, Linear Sum of two subspaces, linear combination of Vectors, Linear span Linear independence and Linear dependence of Vectors.

UNIT –II (12 Hours)

Vector Spaces-II:

Basis of Vector space, Finite dimensional Vector spaces, basis extension, co-ordinates, Dimension of aVector space, Dimension of a subspace, Quotient space and Dimension of Quotient space.

UNIT –III (12 Hours)

Linear Transformations:

Linear transformations, linear operators, Properties of L.T, sum and

product of LTs, Algebra of Linear Operators, Range and null space of linear transformation, Rank and Nullity of linear transformations – Rank – Nullity Theorem

UNIT –IV (12 Hours)

Matrix :

Matrices, Elementary Properties of Matrices, Inverse Matrices, Rank of Matrix, Linear Equations, Characteristic equations, Characteristic Values & Vectors of square matrix, Cayley – Hamilton Theorem.

UNIT –V (12 Hours)

Inner product space:

Inner product spaces, Euclidean and unitary spaces, Norm or length of a Vector, Schwartz inequality, Triangle Inequality, Parallelogram law, Orthogonality, Orthonormal set, complete orthonormal set,Gram

– Schmidt orthogonalisation process. Bessel's inequality and Parseval's Identity.

Co-Curricular Activities(15 Hours)

Seminar/ Quiz/ Assignments/ Linear algebra and its applications / Problem Solving.

VISHVODAYA GOVT DEGREE COLLEGE,VENKATAGIRI
III B.Sc., MATHEMATICS SYLLABUS (w.e.f. 2020-21)
SEMESTER-V, PAPER-VI(B)QP :21--MAT-4C5
MULTIPLE INTEGRALS AND APPLICATIONS OF VECTOR CALCULUS   60 Hrs

II. SYLLABUS: (Hours: Teaching: 75 (incl. unit tests etc.05), Training: 15)

UNIT – 1: Multiple integrals-I & Vector Differentiation – I (15h) Introduction, Double integrals, triple integrals, evaluation of double integrals, evaluation of triple integrals (No question set to be from this portion). Vector Function of Scalar Variable continuity of a vector function partial differentiation scalar point Faction vector point faction – Gradient of a scalar point Function – Unit normal – Directional Derivative at a Point – Angle between two surfaces.

UNIT – 2 : Vector Differentiation – II : (15h) Vector differential Operator – Scalar Differential Operator – Divergence of a vector – Solenoidal vector – Laplacian operator – curl of a vector – Irrotational Vector – Vector identities.

UNIT – 3 : Vector Integration - I :- (15h) Definition – Integration of a vector – simple problems – smooth curve – Line integral – Tangential Integral – circulation Problems on line Integral. Surface Integral – Flux Problems on Surface Integral.

UNIT – 4 : Vector Integration - II :- (15h) Volume Integrals – Gauss Divergence Theorem statement and proof – Applications of Gauss Divergence theorem.

UNIT – 5 : Vector Integration - III :- (15h) Green‟s Theorem in a plane Statement and proof – Application of Green‟s Theorem. Statement and Proof of Stoke Theorem – Application of stoke Theorem

VISHVODAYA GOVT DEGREE COLLEGE,VENKATAGIRI

III B.Sc., MATHEMATICS SYLLABUS (w.e.f. 2020-21)

SEMESTER-V, PAPER-VII(B)QP :21--MAT-4C5

INTEGRAL TRANSFORMS WITH APPLICATIONS   60 Hrs

SYLLABUS :(Hours: Teaching: 75 (incl. unit tests etc.05), Training: 15)

UNIT – 1: LAPLACE TRANSFORMS- I (15h) 1. Definition of Laplace transform, linearity property-piecewise continuous function. 2. Existence of Laplace transform, functions of exponential order and of class A. 3. First shifting theorem, second shifting theorem and change of scale property.

UNIT – 2: LAPLACE TRANSFORMS- II (15h) 1. Laplace Transform of the derivatives, initial value theorem and final value theorem. Laplace transforms of integrals. 2. Laplace transform of tn . f (t), division by t, evolution of integrals by Laplace transforms.

UNIT – 3: INVERSE LAPLACE TRANSFORMS (15h) 1. Definition of Inverse Laplace transform, linear property, first shifting theorem, second shifting theorem, change of scale property, use of partial fractions. 2. Inverse Laplace transforms of derivatives, Inverse Laplace Transforms of integrals, multiplication by powers of „p", division by „p". 3. Convolution Theorem proof and applications.

UNIT – 4: APPLICATIONS OF LAPLACE TRANSFORMS & FOURIER TRANSFORM-I (15h) 1. Applications of Laplace transforms to integral equations. 2. Integral transforms, Fourier integral theorem (without proof), Fourier sine and cosine integrals, Properties of Fourier transforms, Linear property, change of scale property on Fourier transform, change of scale property on Fourier sine transform, change of scale property on Fourier cosine transform

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UNIT – 5: FOURIER TRANSFORMS-II (15h) 1. Shifting property, modulation theorem. 2. Relationship between Fourier transform and Laplace transform, Convolution theorem for Fourier transform, Problems on Integral equations ,Parseval"s Identify.