

Name of Assistant Professor :- **Mr. kawaljeet singh (Asstt. Prof. Mathematics)**

Class:- **B.Sc(I)**

Subject:- **Algebra**

Paper:- **BM-111**

Week	Date	Topic
1	16/11/2020- 21/11/2020	Symmetric, skew-symmetric, hermitian and skew-hermitian matrices, Elementary operations on matrices,
2	23/11/2020- 28/11/2020	rank of a matrix, inverse of a matrix
3	1/12/2020- 5/12/2020	linear independence and dependence of rows and column of a matrix,
4	7/12/2020- 12/12/2020	Row rank and column rank of a matrix Eigen values, eigen vectors
5	14/12/2020- 19/12/2020	characteristic equation of a matrix. Minimal polynomial of a matrix.
6	21/12/2020- 26/12/2020	Caylay Hamilton theorem and its use in finding inverse of a matrix.
7	28/12/2020- 2/1/2021	Application of matrices to a system of linear (both homogeneous and non homogeneous) equations.
8	4/1/21- 9/1/21	Theorem on consistency of a system of a system of linear equation.
9	11/1/21- 16/1/21	Unitary and orthogonal Matrices
10	18/1/2021- 23/1/21	Bilinear and quadratic forms
11	25/1/21- 30/1/21	Relation between the roots and coefficients of general polynomial equation in one variable.
12	1/2/21- 6/2/21	Solutions of polynomial equations having condition on roots. Common roots and multiple roots, transformation of equations
13	8/2/21- 13/2/21	Nature of roots of an equation. Descarte's rule of signs. Solution of cubic equations
14	15/2/21- 20/2/21	Biquadratic equation and their solution, Revision and Conduction of Test.

GCG Bastli ,karnal

SESSION 2020-2021

Weekly Lesson Plan (Odd Semester)

(1st Semester)

Name of the Paper:- Business Mathematics Class: B.COM 1ST

Name of the Teachers (Section wise): kawaljeet singh

WEEK	DATE	TOPICS
1	November (16-21)	Sequences and types of sequence
		Arithmetic Progression (A.P) and related examples
		Representation of terms in A.P and examples
		Sum of 'n' terms of an A.P and examples
		Arithmetic Means
		Geometric Progressions (G.P)
SUNDAY - 22.11.2020		
2	November (23-28)	Examples
		Sum of first 'n' terms of G.P
		Examples
		Sum of a G.P upto infinity
		Geometric means
		Examples
SUNDAY - 29.11.2020		
HOLIDAY - 30.11.2020 (Guru Nanak Dev Jayanti)		
3	December (1-5)	Applications of A.P and G.P to business Mathematics
		Algebra of Matrices
		examples
		Basic operations on Matrices
		Multiplication of Matrices
SUNDAY - 06.12.2020		
4	December (07-12)	Positive integral power of Matrices
		Transpose of a matrix
		Examples
		Determinants
		Minors and cofactors
		Properties of determinants
SUNDAY - 13.12.2020		

5	December (14-19)	Examples
		Examples
		Examples
		Adjoint of a matrix
		Inverse of a square Matrix
		Examples
SUNDAY - 20.12.2020		
6	December (21-24) (26)	Examples
		Inverse of a matrix using Elementry operations
		Solution of system of equations by using Cramer's Rule
		Solution of system of linear equations using Matrices
		Applications of matrix in particular problems
HOLIDAY - 25.12.2020 (Christmas)		
SUNDAY - 27.12.2020		
7	December (28-31) January (1-2)	Compound interest
		simple interest and related examples
		General Formula for determination of compound interest
		Examples
		Examples
		Examples
SUNDAY - 03.01.2021		
8	January (4-9)	Examples
		Continuous Compounding of interest
		Problem on effective rate of interest
		Examples
		Differentiation
		Derivative using first principle
SUNDAY - 10.01.2021		
9	January (11-16)	General theorems on Differentiation
		Differentiation of products of two functions
		Differentiation using chain rule method
		Examples
		Differentiation of logarithmic and exponential functions
		Examples
SUNDAY - 17.01.2021		
10	January (18-19) 21-23)	Logarithmic differentiation
		Examples
		Differentiation of parametric functions
		Derivative of higher order
		Examples

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SESSION 2020-2021

Weekly Lesson Plan (Odd Semester)

(1st Semester)

Name of the Paper:- SOLID GEOMETRY

Class: B.A (I)

Name of the Teachers (Section wise): kawaljeet singh

WEEK	DATE	TOPICS
1	November (16-21)	Introduction to Conic Sections
		General Equation of Second Degree
		Finding Lengths and equations of axis a central conic
		Numericals Based on Central Conic
		Parabola in General and related numericals
		Tracing of Conics
SUNDAY - 22.11.2020		
2	November (23-28)	Tracing of Conics
		Tangent and normal of a conic
		Articles and numericals based on tangent and normal
		Problem discussion
		Pole and Polar of a conic
		Numericals on Pole and Polar
SUNDAY - 29.11.2020		
HOLIDAY - 30.11.2020 (Guru Nanak Dev Jayanti)		
3	December (1-5)	System of Conics
		Related articles and numericals of system of equations
		Confocal Conics
		Related Numericals
		Polar coordinates
SUNDAY - 06.12.2020		
4	December (07-12)	Straight line in polar form
		Circle in Polar form
		Related Numericals
		Sphere : Centre, radius and various forms of sphere
		Sphere passing through four points
		Plane section of a sphere
SUNDAY - 13.12.2020		

5	December (14-19)	Related Numericals
		Sphere passing through a given circle
		Intersection of two spheres
		Sphere and a line
		Related Numericals
		Tangents to a sphere
SUNDAY - 20.12.2020		
6	December (21-24) (26)	Diametral and Polar Plane
		Intersection of two spheres
		Radical Plane
		Problm Discussion
		Equation of a cone with a given vertex and conic as base
HOLIDAY - 25.12.2020 (Christmas)		
SUNDAY - 27.12.2020		
7	December (28-31) January (1-2)	Equation of a the right circular cone
		Equation of enveloping cone
		Cone representation by general equation of second degree
		Related Numericals
		Equation of a quadric cone through axes
		Condition of cone to have three perpendicular generators
SUNDAY - 03.01.2021		
8	January (4-9)	Equation of a tangent plane
		Condition of tangency
		Equation of reciprocal cone
		Equation of a right circular cylinder in standard form
		Equation of cylinder whose axis and guiding curve are given
		Equation of enveloping cylinder
SUNDAY - 10.01.2021		
9	January (11-16)	Problem discussion
		Conicoid
		Equation of tangency plane
		Condition of tangency
		The equation of director sphere
		Equation of the Normal
SUNDAY - 17.01.2021		
10	January (18-19) 21-23)	Number of normals from a given point
		Cubic curve through the feet of six normals
		Quadric cone through sic concurrent normals
		Polar plane of a point
		Reciprocal Property

HOLIDAY - 20.01.2021 (Guru Gobind Singh Jayanti)

SUNDAY - 24.01.2021

11

January (25)
(27-30)

Pole of a given plane
Polar of a line w.r.t. a conicoid
Diametral Plane property
Intersection of a line and a paraboloid
Condition of tangency of a line for a paraboloid

HOLIDAY - 26.01.2021 (Republic Day)

SUNDAY - 31.01.2021

12

February (01-06)

Central plane sections of a central conicoid
Circular sections
Generating Lines of a hyperbolic of one sheet
Generating Lines of a hyperbolic paraboloid
Confocal Conicoids
Confocal through a given point

SUNDAY - 07.02.2021

13

February (08-13)

Confocal touching a given plane
Elliptic coordinates
Locus of poles of planes with respect to confocals
Normals to th three confocals through a point
Equation of enveloping cone
Intersection of a line and a conicoid

SUNDAY - 14.02.2021

14

February
(15 - 20)

Finding an eqn of chord which is bisected at a given point
Diametral plane conjugate to a given direction
Principial direction and Principal planes
Reduction general equation of second degree
Related Numericals
Problem discussion

Calculus

SESSION 2020-2021

Weekly Lesson Plan (Odd Semester)

(1st Semester)

Name of the Paper:- SOLID GEOMETRY CLASS - B.A 1

Name of the Teachers (Section wise): kawaljeet singh

WEEK	DATE	TOPICS
1	November (16-21)	Defination of limit of a function, limits
		continuous & discontinuities
		Differentiability
		successive differentiation
		continue
		continue
SUNDAY - 22.11.2020		
2	November (23-28)	leibnitz theorem
		maclaurin series
		taylor series
		continue
		Asymptotes in cartesian coordinates
		intersection of curve and its asymptotes
SUNDAY - 29.11.2020		
HOLIDAY - 30.11.2020 (Guru Nanak Dev Jayanti)		
3	December (1-5)	curvature, radius of curvature
		continue
		Newton's method
		radius of curvature for pedal curves
		continue
SUNDAY - 06.12.2020		
4	December (07-12)	tangential polar equations
		centre of curvature
		circr of curvature, chord of curvature
		tests for concavity and convexity
		Points of inflexion, multiple points
		Cusps, nodes, conjugate points
SUNDAY - 13.12.2020		

5	December (14-19)	type of cusps
		continue
		continue
		continue
		tracing of curves in cartesian
		continue
SUNDAY - 20.12.2020		
6	December (21-24) (26)	Parametric
		continue
		polar coordinates
		continue
		problem discussion
HOLIDAY - 25.12.2020 (Christmas)		
SUNDAY - 27.12.2020		
7	December (28-31) January (1-2)	Reduction formulae
		continue
		continue
		Rectification
		continue
		problem discussion
SUNDAY - 03.01.2021		
8	January (4-9)	Intrinsic of curve
		continue
		Quadrature area
		Sectorial area
		continue
		problem discussion
SUNDAY - 10.01.2021		
9	January (11-16)	Problem discussion
		area bounded by closed curves
		continue
		continue
		problem discussion
		problem discussion
SUNDAY - 17.01.2021		
10	January (18-19) 21-23)	volumes of solids of revolution
		continue
		continue
		surfaces of solids of revolution
		continue

HOLIDAY - 20.01.2021 (Guru Gobind Singh Jayanti)

SUNDAY - 24.01.2021

11

January (25)
(27-30)

continue
continue
problem discussion
problem discussion
theorems of pappu's

HOLIDAY - 26.01.2021 (Republic Day)

SUNDAY - 31.01.2021

12

February (01-06)

continue
continue
problem discussion
theorem of guilden
continue
problem discussion

SUNDAY - 07.02.2021

13

February (08-13)

problem discussion
problem discussion
Revision
Revision
Revision
Revision

SUNDAY - 14.02.2021

14

February
(15 - 20)

problem discussion
problem discussion
Revision
Revision
Revision
Problem discussion