Lesson Plan   Govt. College Bhattu Kalan (Fatehabad) Session 2023-24 (Odd Semester)

B.com-1 BC1.5   Business Mathematics

Dr. Kirti

July	Week 4	**Matrices-** Definition of a matrix
		Types of matrices
		Construction of matrix
		Exercise
		Algebra of matrices-Scalar multiplication
		Algebra of matrices-Addition
	Week 5	Algebra of matrices-Subtraction
		Algebra of matrices-Negative of a matrix
		Miscellaneous problems
		Algebra of matrices-multiplication-Formula
		Algebra of matrices-multiplication-simple
August	Week 1	Algebra of matrices-multiplication-complex
		Algebra of matrices-multiplication solving equation
		Transpose of a matrix
		Symmetric and skew symmetric matrices
		Solving equations
		Calculation of values of determinants 2*2
	Week 2	Calculation of values of determinants 3*3
		Expanding determinant without expending
		Expanding determinant without expending
		Expanding determinant without expending
		Adjoint of a matrix 2*2
		Adjoint of a matrix 3*3
	Week 3	Adjoint of a matrix-Solving equation
		Inverse of a Square matrix- Solving equation
		Inverse of a Square matrix- Miscellaneous Problems
		Inverse of a Square matrix- Miscellaneous Problems
		Inverse of a matrix- Using elementary operations (pre)
	Week 4	Inverse of a matrix- Using elementary operations (post)
		Inverse of a matrix- Using elementary operations (Pre and post)
		Finding inverse of a matrix through ad Joint
		Assignment-1 –Matrix and Matrix continued
September	Week 1	Applications of matrices to solution of simple business and economic problems
		Derivative of a function-formulae
		Derivative of a function-problems
		General theorem on differentiation (U+V)

		Week 2	General theorem on differentiation (U-V)
			Practical Problems
			Differentiation of product of two functions (U.V)
			Differentiation of Quotient of two functions (U/V)
			Differentiation of Quotient of two functions (U/V)
		Week 3	Chain Rule
			Logarithmic functions
			Exponential functions
			Implicit functions
			Second derivative
			Partial differentiation
		Week 4	Rules of Partial differentiation
			Partial derivative of second order
			Practical problems
			Total differentiation
			Differentiation of Composite functions
			Practical problems
			Concepts of limit
October		Week 1	Concepts of limit
			Concepts of continuity of a function
			Concepts of continuity of a function
			Maxima and Minima of functions (second order derivatives) relating to cost, revenue and profit.
		Week 2	Maxima and Minima of functions (Third order derivatives) relating to cost, revenue and profit.
			Practical problems
			Graphical method of solution
		Week 3	Problems relating to two variables including the case of mixed constraints
			cases having no solution
			multiple solutions
		Week 4	unbounded solution
			Redundant constraints
			Simplex method - solution of problems up to three variables
			Simplex method including cases of mixed constraints,
november		Week 1	Duality
			Transportation Problem.
			Practical Problems
			Simple Rates of interest
			Compound Rates of interest
		Week 2	Simple and compound interest Rates of interest – nominal

		Simple and compound interest Rates of interest –effective
		Simple and compound interest Rates of interest continuous –
		Compounding of a sum using different types of rates
	Week 3	Discounting of a sum using different types of rates
		Practical Problems
		Practical Problems
		Revision-Unit-1
	Week 4	Revision-Unit-2
		Revision-Unit-3

Lesson Plan Govt. College Bhattu Kalan (Fatehabad)Session 2023-24 (Odd Semester)

B.A/BSc 5 sem   Name of Teacher-Dr kirti chaudhary   sub- group and ring

Week 4 july	Topic Group and sub group
	Introduction
	Fundamental properties of binary operations
	Group and solved examples
Week 5 july	Integral power of element of a group
	Theorems
	Solved examples
	Complexes and subgroup of a group
Week 1 august	Theorems
	Criteria of a complex to be a subgroup
	Theorems
	Theorems
Week 2 august	Intersection of subgroups
	Theorems and solved examples
	Theorems
	Questions solved
Week 3 august	Theorems
	Theorems and solved examples
	Chapter 2 cosets
	Theorems on cosets
	Solved example
	Index of a subgroup in a group
	Langrages theorem
	Theorem
Week 4 august	
	Normal subgroup
	Theorems
	Quotient group
	Chapter 3 homomorphism and auto morphism
	Isomorphism of a group
Week 1 september	Questions solved
	Kernel of homormorphism
	Class Test
	Fundamental theorem on homomorphism of groups
	Theorem on isomorphism
	Automorphism of a group
Week 2 september	Question solved
	Group of automorphism of a group
	Inner auto morphism
	Question solved
	Theorems
	Centre of a group
	Theorems
Week 3 september	**Class Test**
	Charactertics subgroups
	Question solved
	Normalizer of an element
	Commutator
	Chapter 4 permutation groups
	Composition of two functions

Week 4 september	Questions solved
	Cyclic permutation
	Transposition
	Disjoint cycles
	Theorems
	Alternating group
	Question solved
	Cayley theorem
Week 1 october	Holiday
	Chapter 5 Ring and field
	Questions solved
	Ring with or without zero divisor
	Integral domain
	Theorems
Week 2 october	Question solved
	Sub rings
	Theorems
	1st Assignment
	Centre of a ring
	Characterstics of a ring
Week 3 october	Theorems
	Chapter 6 Ideals and quotient ring
	Theorems
	Ideal generated by set
	Product of two ideals
	Theorems
	Simple ring
Week 4 october	IInd Assigment
	Principle ideal
	Prime ideal
Week 1 november	Class Test
	Quotient rings
	Chapter 7 homomorphisms of rings
	Theorems
Week 2 november	**Questions solved**
	IIIrd Assignment
	Chapter 8 Euclidean rings
Week 3 november	**Revision -**
	Theorems
	Questions solved
	Associates
Week 4 november	Euclidean rings
	Theorems
	Principal ideal domain
	Theorems
	Chapter 9 polynomial rings

Lesson Plan Govt. College Bhattu Kalan (Fatehabad)Session 2023-24 (Odd Semester)

B.Sc 1st Semester – solid geometry   Name of Teacher- Dr kirti chaudhary

July week 4	Chapter 1 general equation of second degree
	Conic sections
	Centre of conic section
	Nature of the curve
week 5	Questions solved
	Questions solved
	To find lengths and equation of axis
	Questions solved
August week 1	The parabola in general
	Questions solved
	General conics
	Equation of tangent at any point of conic
	Chord of contact
Week 2	
	Equation of director circle
	Questions solved
	Chapter 2 tracing of conics
	Question solved
Week 3	Question solved
	Question solved
	Test of chapter 1
	Chapter 3 system of conics
	Intersection of two conics
Week 4	
	Question solved
	Chapter 4 confocal conics
	Question solved
	Chapter 5 polar equation of a conic
Week 1 september	Equaton of a line in polar coordinates
	Polar equation of a circle
	Class Test
	Equation of chord joining two points
	Holiday
	Equation of normal to the conic
	Tracing of a conic
Week 2 september	Question solved
	Chapter 6 sphere introduction
	Diameter form of equation of sphere
	Question solved
	Four constant
	Question solved
	Plane section of a sphere
	Class Test
Week 3 september	Question solved
	Sphere and a line
	Question solved
	Diametral plane
	Tangent plane
	Question solved

	Plane of contact
Week 4 september	Polar plane
	Question solved
	Two or more spheres
	Orthogonal spheres
	Question solved
	Length of the tanget
	Radical plane of two sphere
Week 1 october	Holiday
	Question solved
	Chapter 7 cone
	Equation of a cone
	Right circular cone
	Question solved
	Enveloping cone or tangent cone
Week 2 october	Question solved
	Chapter 8 cylinder
	1st Assignment
	Right circular cylinder
	Question solved
	Holiday
Week 3 october	Chapter 9 the conicoid
	Central conicoid
	Director sphere
	Normal
	Question solved
	Polar plane of a point
	Polar lines
Week 4 october	IInd Assignment
	Enveloping cylinder
	Plane section with a given sphere
	Class Test
Week 1 november	Diametral plane property
	Tracing of paraboloid
	Normal to an elliptic paraboloid
Week 2 november	**Chapter 10 plane sections of conicoid**
	Axes of non central plane sections
	IIIrd Assignment
	Circular sections
Week 3 november	**Revision -**
	Chapter 12 confocal conicoid
	Class Test
	Equation to enveloping cone
Week 4 november	
	Chapter 13 reduction of second degree equation
	Principal planes
	Question solved
	Revision
	Test of whole syallabus

Lesson Plan Govt. College Bhattu Kalan (Fatehabad) Session 2023-24(Odd Semester)

B. A/BSC Semester 3rd BM-231 Advanced calculus by Dr. Kirti Chaudhary

Months	
Week 4 july	**Introduction,chapter 1 continuous function**
	Sequence
	Introduction
Week 5 july	Geometrical interpretation
	Discontinuous function
	Theorms
	Boundedness of continuous function
Week 1 August	**Chapter 1 continious function**
	Open set and closed set
	Theorms
Week 2 august	Intermediate value theorm
	Question solved
	Question solved
	Uniform continuity
Week 3 August	**Chapter 1 continious function**
	Theorm
	Holiday Martyrdom Day of Shaheed Udham Singh
	Theorm
	Question solved
	Question solved
	Revision
Week 4 August	**Chapter 2 the derivative and mean value theorm**
	Introduction
	The chain rule
	Question solved
	Sign of derivative
	Darboux theorm
	Question solved
Week 1 september	**Chapter 2**
	Mean value theorm
	Rolles theorm
	Independence Day
	Test the continuity
	Question solved
	Question solved
Week 2 september	**Chapter 2**
	Langrages mean value theorm
	Geometrical interpretation
	Idul Juha
	Question solved
	Cauchy mean value theorm
	Question solved
Week 3 september	**Chapter 2**
	Taylors theorm
	Various form of remainder
	Question solved
	Question solved
	Test of chapter 1

Week 4 september	**Chapter 3 indeterminate form**
	Introduction
	Working rule
	Question solved
	Evaluation of the limits
Week 1 october	**Chapter 3**
	Question solved
	Evaluate the indeterminate form
	Question solved
	Various forms
	Question solved
	Question solved
Week 2 october	**Chapter 3**
	Theorms
	Question solved
	Test of chapter 2
	Revision
	Assignment 1
	Question solved
Week 3 october	**Chapter 4 limit and continuity of functions of two variables**
	Introduction
	Function of two variables
	Limit of a function
	Algebra of limits
	Theorm
	Question solved

Week 4 october	**Chapter 5 partial differentiation**
	Introduction
	Mahatma Gandhi Birthday
	Question solved
	Homogeneous function
	Theorm
	Question solved
Week 1 november	**Chapter 5**
	Eulers theorm
	Question solved
	Maharaja Agrasen Jayanati
	Total increment
	Question solved
	Composite function
Week 2 november	**Chapter 5 , Chapter 6 differentiability of functions of two variables**
	Taylors theorm
	Question solved
Week november	Differentiability
	Question solved
	Youngs theorm
	Implicit function
Week 34november	Revision

Lesson Plan   Govt. College Bhattu Kalan (Fatehabad) Session 2023-24(Odd Semester)

B A/**B.Scsemester 1ˢᵗ BM-111 Algebra by Dr Kirti chaudhary**

Week 4 july	Chapter 1 Matrices
	Introduction
	Definitions
Week 5 july	Theorems
	Theorems
	Question solved
	Question solved
Week 1 august	Chapter 1
	Solution of system of linear equations
	Theorem
Week 2 august	Question solved
	Symmetric matrix
	Skew symmetric matrix
	Hermitian matrix
Week 3 august	Chapter 1,chapter 2 Rank of a matrix
	Question solved
	Question solved
	Sub matrix of a matrix
	Minors of a matrix
	Rank of a matrix
Week 4 august	Chapter 2
	Question solved
	Elementary row coloumn operation
	Question solved
	Equivalent matrix
	Theorem
	Row echelon matrix
Week 1 september	Chapter 2
	Question solved
	Row rank and coloumn rank
	Normal form of a matrix
	Theorem
Week 2 september	Chapter 2
	Elementary matrix
	Question solved
	Theorem
	Theorem
	Rank of the product of two matrices
Week 3 september	Chapter 2
	To calculate P and Q
	Question solved
	Inverse of a matrix
	Question solved
	Linear dependence and independence of row and column matrix

1	Question solved
Week 4 september	Chapter 2,chapter 3 characteristics equation of a matrix
	Theorems
	Theorems
	Characterstics matrix
	Question solved
	Question solved
Week 1 october	Chapter 3
	Test of chapter 1
	Eigen vector
	Theorem
	Question solved
	Question solved
	Scalar polynomial and matrix polynomial
Week 2 october	Chapter 3
	Scalar matrix polynomial
	Cayley Hamiltonian theorem
	Question solved
	Theorem
	Monic polynomial
	Theorem
Week 3 october	Chapter 3
	Derogatory and non derogatory matrix
	Theorem
	Question solved
	Assignment 1
	Test of chapter 2
	Revision class

Week 4 october	Chapter 4 application of matrix to system of linear equation
	System of non homogeneous linear equation
	Questions solved
	Question solved
	Working rule for solution
	Question solved
	Question solved
Week 1 november	Chapter 4,chapter 5 orthogonal and unitary matrices
	Solution of system of LHE
	Question solved
	Question solved
	Orthogonal matrix
	Properties
Week 2 november	Chapter 5,chapter 6 bilinear and quadratic forms
	Unitary matrices
	Theorems
	Question solved
	Question solved
	Linear transformation
	Bilinear form

Week 3 november	**Revision**
	Revision
Week 4 november	Revision
	Revision

	Revision