Govt. Shivalik College Naya Nangal

Teaching plan (2021-22)

Teacher Name:Raminderjeet kaur **Class:BCA SEM-3**

Paper : Discrete Mathematics

Sr. no.	Dates	Topic
1	01-07 September	**Set Theory:** Sets, Type of sets, Set operations, Principle of Inclusion-Exclusion, Cartesian prodouct of sets, Partitions.
2	08-14 September	**Logic :** Propositions, Implications, Precedence of logical operators, Translating English sentences into logical expressions, Propositional equivalence
3	15-21 September	**Principle of Mathematical induction.**
4	22-27 September	**Relations:** Relations and diagraph, n-ary relations and their applications, properties of relations, representing relations,
5	28-02 october	closure of relation, equivalence relation, operation on relations, partial ordering.
6	03-09 october	**Functions:** Functions, One-to-one Functions, Onto Functions, Inverse and Composition of Functions
7	10-17 october	Floor Function, Ceiling Function.
8	18-25 october	**Basic Concepts (Only Definition):** Big-O Notation, Big-Omega and Big-Theta Notation.
9	25-01 November	**Graphs:** Introduction to Graph, Graph terminology, Representing graphs and Graph Isomorphism,
10	02-09 November	Connectivity, Euler Paths and Circuits,

11	**10-14 November**	Shortest Path Problems,
12	**15-21 November**	MST
13	**22-30 November**	Planar Graphs.
14	**1-07 December**	Hamillonian paths and circuits,

Teaching plan (2021-22)

Teacher Name:Raminderjeet kaur **Class:B.COM**
SEM-3

Paper : Business Statistics

Sr. no.	Dates	Topic
1	**01-07 September**	Concepts of Geometric Mean, Harmonic Mean and their applications, Measures of Dispersion including Lorenz
2	**08-14 September**	Curve . Skewness: Meaning, types and measures. Probability ; definition, concepts
3	**15-21 September**	Addition and Multiplication theorems and its applications.
4	**22-27 September**	**Correlation and Regression**: Correlation: Definition, types, causation, Methods of correlation
5	**28-02 october**	; Discrete and Continuous Variables; Properties of correlation, Rank Correlation and its applications, and Concurrent Deviation Method
6	**03-09 october**	Regression Analysis: Meaning,types, difference between Correlation and Regression.
7	**10-17 october**	Methods of obtaining Regression Equations in case of two Variables only, Properties of Regression Coefficients, Discrete and Continuous Variables.
8	**18-25 october**	**Interpolation and Extrapolation:** Binomial Expansion Method, Newton's Method for Leading Differences and Lagrange's Method.
9	**25-01 November**	Index numbers:Meaning,types, problems and methods of construction of Index Numbers
10	**02-09 November**	. Chain and Fixed Base Index Number, Tests of Consistency and Cost of living Index Numbers.
11	**10-14 November**	**Time Series Analysis** : Components of Time Series
12	**15-21 November**	MST

13	**22-30 November**	its Measurement of Secular Trend
14	**1-07 December**	Seasonal Variations.

Govt. Shivalik College Naya Nangal

Teaching plan (2021-22)

Teacher Name:Raminderjeet kaur **Class:BCA**
SEM-2

Paper : BASIC Mathematics

Sr. no.	Dates	Topic
1	07-14 March	**Complex Numbers:** Complex Numbers in the form of a+ib, Real and Imaginary parts of a complex number,
2	15-22 March	Complex conjugate, algebra of complex numbers, square roots of a complex number, cube roots of unity.
3	24-31 March	**Quadratic Equations:** Solutions of Quadratic equations (with real and complex coefficients),
4	1-8 April	Relations between roots and coefficients, Nature of roots, Equations reducible to quadratic equations.
5	09-17 April	**Cartesian System of Rectangular Coordinates:** Cartesian coordinate system, distance formula, section formula,
6	18-24 April	centroid and incentre, area of triangle, condition for collinearities of three points in a plane.
7	25-30 April	**Straight Line:** Slope of a line, parallel and perpendicular lines,
8	2-08 May	Equation of line in different forms, distance of a point from a line.
9	09-15 May	**Circle:** Standard form of equation of circle, General form, diameter form, three point form, Intersection of a line and a circle. **Matrices:** Types of Matrices, Addition, Subtraction, Multiplication, Transpose, Conjugate and their properties, Symmetric, Skew-symmetric, Minor, co-factors, Adjoint, Inverse of matrices, Solution of linear system of equations using matrices.
10	16-22 May	**Determinants:** Expansion of determinants (upto order 4), solution of linear system of equations using Cramer rule.
11	26-31 May	**MST EXAM**

Teaching plan (2021-22)

Teacher Name:Raminderjeet kaur **Class:BCA**
SEM-4

Paper :COMPUTER ORIENTED NUMERICAL AND STATISTICAL METHODS

Sr. no.	Dates	Topic
1	**07-14 March**	**Roots of Polynomials:** Conventional Methods - Muller's Method, Bairstow's Method.
2	**15-22 March**	**Algebraic Equations:** Gauss-Jordan method, LU Decomposition, Matrix Inverse -Gauss-Seidel.
3	**24-31 March**	**Numerical Differentiation - Integration:** Trapezoidal Rule, Simpson's Rule, Differential equations: Taylor's method, Euler's method
4	**1-8 April**	, Runge-Kutta methods of order 2 and 4, Predictor - corrector methods.
5	**09-17 April**	**Interpolation:** Newton's divided difference method, Lagrange's interpolation.
6	**18-24 April**	**Curve fitting:** Linear, Polynomial and Exponential curve fitting.
7	**25-30 April**	**Statistics:**Diagrammatic and Graphical representation of Numerical Data, Formation of frequency distribution
8	**2-08 May**	, Histogram, Cumulative Frequency - Polygon and Ogives.
9	**09-15 May**	**Measures of Central tendency**: Mean, Median, Mode. Measures of Dispersion: Mean deviation, Standard deviation, variance, Quartile deviation and coefficient of variation, Moments (upto 4th), Measures of Skewness and Kurtosis for grouped and ungrouped data.
10	**16-22 May**	**Correlation:** Meaning and types of correlation, correlation and causation, Methods of correlation: product moment correlation coefficient - rank correlation coefficient. **Regression analysis:** Linear regression - method of least squares for estimation of regression coefficient. Concept of sampling and Sampling distributions Chi square tests for goodness of fit and test for independence of attributes in contingency table.
11	**26-31 May**	**MST EXAM**

Govt. Shivalik College Naya Nangal

Teaching plan (2021-22)

Teacher Name:Raminderjeet kaur **Class:B.COM**
SEM-4

Paper : Operational Research

Sr. no.	Dates	Topic
1	07-14 March	Operational Research: Meaning Significance and Scope.
2	15-22 March	Introduction to Linear Programming,
3	24-31 March	Formulation of Linear Programming Problem,
4	1-8 April	Graphical Method,
5	09-17 April	Simplex Method.
6	18-24 April	Duality in Linear Programming
7	25-30 April	, Definition of Dual Problem General Rules in Converting any Primal into its Dual,
8	2-08 May	Transportation Problem, Assignment Problem.
9	09-15 May	Decision Theory: Decision Making under Uncertainty and Risk, Decision Trees
10	16-22 May	Games Theory : Two Persons Zero Sum Games, Pure Strategies, Mixed Strategies. Simulation; Meaning, Process, Advantages, Limitations and Applications
11	26-31 May	MST EXAM

Govt. Shivalik College Naya Nangal

Teaching plan (2021-22)

Teacher Name:Raminderjeet kaur **Class:M.A. ECO SEM-1**

Paper : BASIC QUANTITATIVE METHODS

Sr. no.	Dates	Topic
1	**29-06 October**	**Calculus**: Concept of differentiation. Differentiation of function of one variable including logarithmic and exponential functions.
2	**07-14 October**	Successive and partial derivatives. Euler's theorem
3	**15- 21 October**	. Elementary Concepts of Integration: Integration of function of one variable.Applications of Revenue and cost function, Analysis of Consumer's surplus and Producer's Surplus
4	**22-27 October**	**Applications of Derivatives in Economics**: Elasticity of demand, Average and marginal functions.
5	**28 October – 03 November**	Problems of optimization (max. /min.) in case of one variable.
6	**03 -09 November**	**Matrices: Definition and types**. Elementary operations. Rank of a matrix. Matrix inverse by adjoint and Linear Equation method . Concept of determinants and its properties. Solution of simultaneous Equations by Cramer's Rule and
7	**10-16 November**	Matrix Inverse methods and proving problems.
8	**17-21 November**	Solution of simultaneous Equations by Cramer's Rule
9	**01-07 December**	Application of simultaneous equations in Economics.
10	**08-17 December**	economic applications.
11	**26-31 December**	**MST EXAM**

Govt. Shivalik College Naya Nangal

Teaching plan (2021-22)

Teacher Name:Raminderjeet kaur **Class:M.A. ECO SEM-2**

Paper : BASIC QUANTITATIVE METHODS

Sr. no.	Dates	Topic
1	**22-29 March**	Concepts of Geometric Mean, Harmonic Mean and their applications
2	**30 -6 April**	, Measures of Dispersion including Lorenz Curve . Skewness: Meaning, types and measures
3	**7-14 April**	. Probability ; definition, concepts, Addition and Multiplication theorems and its applications.
4	**15-22 April**	**Correlation and Regression**: Correlation: Definition, types, causation, Methods of correlation
5	**23-30 April**	Discrete and Continuous Variables; Properties of correlation, Rank Correlation and its applications,
6	**01-07 May**	Concurrent Deviation Method. Regression Analysis: Meaning,types, difference between Correlation and Regression,
7	**08-16 May**	Methods of obtaining Regression Equations in case of two Variables only, Properties of Regression Coefficients, Discrete and Continuous Variables.
8	**17-23 May**	**Interpolation and Extrapolation:** Binomial Expansion Method, Newton's Method for Leading Differences and Lagrange's Method. Index numbers:Meaning,types, problems and methods of construction of Index Numbers. Chain and Fixed Base Index Number, Tests of Consistency and Cost of living Index Numbers. **Time Series Analysis** : Components of Time Series and its Measurement of Secular Trend and Seasonal Variations.
9	**26-31 May**	**MST EXAM**