Department of Statistics & Data Science, M.D. University, Rohtak
Four Year Undergraduate Program in Statistics (Single Major) under NEP-2020
Syllabus for Entrance Test
(Session: 2026-2027)

Duration: 1:15 Hours **Max. Marks: 100 Marks**

Note: The Examiner is required to set 100 multiple choice questions each of mark one as per syllabus described in all the five units.

Unit-1 (20 Marks)

Sets: Types of Sets, Operations on Sets; Relations & Functions and their types, Composition of Functions, Invertible Functions, Binary Operations; Trigonometric Functions; Inverse Trigonometric Functions; Complex Numbers, Algebra of Complex Numbers; Linear Inequalities; Binomial Theorem; Sequence, Series, Arithmetic Progression (A.P.), Sum of n-terms of A.P., Geometrical Progression (G.P.), Sum of n-terms of G.P., Sum of n-terms of Special Series, Matrices, Determinants and its Properties; Minors and Co-factors, Ad-joint and Inverse of Matrix.

Unit-2 (20 Marks)

Limits, Algebra of Limits, Limits of Polynomials and Trigonometric Functions; Derivatives and Algebra of Derivatives of Functions, Derivatives of Polynomials and Trigonometric Functions; Continuity, Differentiability, Exponential and Logarithmic Functions, Derivatives of Functions in Parametric Forms, Second Order Derivatives, Mean Value Theorem. Applications of Derivatives & Integrals, Solution of Differential Equations, Linear Programming Problems

Unit-3 (15 Marks)

Quantitative Aptitude and Reasoning: Series Completion and Inserting; Logical Venn Diagrams; Coding-Decoding; Alpha-Numeric Sequence; Mathematical Operations; Cube and Dice; Direction Sense Test; Embedded Figures; Mirror and Water Images; Analogy; Blood Relations, Problems on Ages: Time and Distance; Time and Work; Problems on H.C.F. and L.C.M.; Profit and Loss; Simple and Compound Interest.

Unit-4 (25 Marks)

Statistics: Definition, Scope & Limitations; Data and Its Types; Tabular and Graphical Representation of Data: Classification, Tabulation, Diagrammatic Representation using Bar Graph, Pie Chart, Histogram; Measures of Central Tendency for Grouped & Ungrouped Data: Arithmetic Mean (A.M.), Geometric Mean (G.M.), Harmonic Mean (H.M.), Mode, Median, Relation between A.M., G.M. & H.M.; Measures of Dispersion for Grouped & Ungrouped Data: Range, Mean Deviation, Variance, Standard Deviation; Data Interpretation.

Unit-5 (20 Marks)

Permutations and Combinations, Probability: Random Experiment, Sample Space, Event, Certain Event, Impossible Event, Independent Events, Complementary Events, Exhaustive Events, Mutually Exclusive Events, Algebra of Events, Axiomatic Approach to Probability, Conditional Probability, Addition and Multiplication theorem of Probability (Two Events Only), Bayes' Theorem, Random Variable (One Dimensional Only), Probability Distributions; Bernoulli and Binomial Distribution.

11/05/2026

Head
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