

Entrance Exam Test Pattern & Syllabus for MCA

Pattern of Exam

- The entrance examination shall consist of 60 questions to be answered in 90 mins duration.
- Each question shall carry 4 marks for the correct answer.
- **THERE WILL NOT BE ANY NEGATIVE MARKING.**
- The candidate has to indicate the option which in his/her opinion is correct.
- The knowledge of the candidate in the following four broad areas will be tested:
 - Mathematics, Analytical ability & Logical Reasoning, Computer Awareness, and General English.

The Test will consist of following breakup

- Mathematics: 20 questions
- Logical and Analytical reasoning: 10 questions
- Computer Awareness: 20 questions
- General English: 10 questions

Syllabus of the Test

Mathematics: (20 questions)

1. Algebra: Fundamental operations in Algebra, expansion, Factorization, quadratic equations, indices, logarithms, arithmetic, geometric and harmonic progressions, binomial theorem, permutations and combinations, Determinants & Matrices.
2. Set Theory: Sets and subsets, operations on sets, sequences, properties of integers, relations and functions.
3. Co-ordinate Geometry: Rectangular Cartesian co-ordinates, equations of a line, midpoint, intersections etc., equations of a circle, distance formulae, pair of straight lines, parabola, ellipse and hyperbola.
4. Calculus: Limit of functions, continuous functions, differentiation of functions, Tangents and normal, simple examples of maxima and minima, Integration of function by parts, by substitution and by partial fraction.
5. Vector: Position vector, addition and subtraction of vectors, scalar and vector products and their application to simple geometric problems and mechanics.
6. Trigonometry: Simple identities, trigonometric equations, properties of triangles, solution of triangles, height and distance.
7. Probability and Statistics: Basic concepts of probability theory, Averages, Dependent

and independent events, frequency distributions, and measures of dispersions, skewness and kurtosis, random variable and distribution functions, mathematical expectations, Binomial, Poisson, normal distributions, curve fitting, and principle of least squares, correlation and regression.

8. Linear Programming: Formulation of simple linear programming problems, basic concepts of graphical and simplex methods, revised simplex method, transportation and assignment problems, duality and integer programming.

Analytical Ability and Logical Reasoning: (10 questions)

Questions in this section will contain

1. Number Series
2. Verbal Classification
3. Analogies
4. Verbal Reasoning
5. Statement and Assumption
6. Statement and Conclusion
7. Cause and Effect
8. Logical Deduction
9. Letter and Symbol Series
10. Visual-Spatial Reasoning

Computer Awareness: (20 questions)

1. Computer Basics: Organization of a computer, Central Processing Unit (CPU), Structure of instructions in CPU, input/output devices, computer memory, memory organization backup back-up devices.
2. Data Representation: Representation of characters, integers, and fractions, binary and hexadecimal representations, Binary Arithmetic: Addition, subtraction, division, multiplication, single arithmetic, and two complement arithmetic, floating-point representation of numbers, Boolean algebra, truth tables, Venn diagrams.
3. Computer Architecture: Block structure of computers, communication between the processor and I/O devices.
4. Flow chart and Algorithm, Fundamentals of Operating System and Basics of Internet & Social Media tools.

General English: (10 questions)

1. Use of articles and prepositions
2. Idioms and phrases
3. Synonyms & Antonyms
4. Reading comprehension
5. Expansion of an idea
6. Sentence sequence (jumbled sentences)

7. Completion of a sentence (with choices)
8. Choice of appropriate word to fill in the blanks (with options)
9. Abridging sentences/paragraph
10. Technical Writing

