

Department of Computer Science & Applications

M. D. University, Rohtak

Syllabus for MCA 2-years Program and M.Sc.(Computer Sc.) Entrance Exam

The entrance examination shall consist of 100 questions to be answered in 75 minutes. The knowledge of the candidate in the following four broad areas will be tested: Mathematics, Analytical ability & Logical Reasoning, Computer Awareness and General English.

Examination Pattern

- **Mathematics:** 10 questions
- **Logical and Analytical reasoning:** 40 questions
- **Computer Awareness:** 40 questions
- **General English :** 10 questions

Mathematics: (10 questions)

Algebra: Fundamental operations in Algebra, expansion, Factorization, quadratic equations, indices, logarithms, arithmetic, geometric and harmonic progressions, binomial theorem, permutations and combinations, surds.

Set Theory: Sets and subsets, operations on sets, sequences, properties of integers, relations and functions.

Vector: Position vector, addition and subtraction of vectors, scalar and vector products and their application to simple geometric problems and mechanics.

Trigonometry: Simple identities, trigonometric equations, properties of triangles, solution of triangles, height and distance, inverse functions.

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, correlation and regression.

Analytical Ability and Logical Reasoning: (40 questions)

Verbal Reasoning, Jumbled Paragraphs/Para-jumbles, Assertion & Reason, Summary Questions, Reading Comprehension, Logical Reasoning, Data Interpretation (Tables, Charts, Graphs).

Syllogism, Statement and Arguments, Statement and Assumptions, Statement and Courses of Action, Statement and Conclusions, Deriving Conclusion, Punch lines, Situation Reaction Tests, Cause and Effect, Analytical Reasoning.

Alphabet Test, Sitting Arrangements, Mathematical Operations, Arithmetical Reasoning, Inserting the Missing Character, Number, Ranking and Time Sequence Test, Eligibility Test.

Computer Awareness: (40 questions)

Computer Basics: Organization of a computer, Central Processing Unit (CPU), Structure of instructions in CPU, input/output devices, computer memory, memory organization, back-up devices.

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.

Computer Architecture: Block structure of computers, communication between processor and I/O devices.

Computer Language: Assembly language and high-level language, Multiprogramming and time-sharing operating systems.

Flow chart and Algorithm, Fundamentals of Operating System.

Basics of Internet, Internet applications, E-mail, WWW, Basic HTML.

General English: (10 questions)

1. Use of articles and prepositions
2. Idioms and phrases
3. Synonyms
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/paragraphs