NALANDA OPEN UNIVERSITY

Regulations for

Nalanda Open University
MCA Common Entrance Test
(NOUMCA-CET) - 2025

Nalanda Open University (NOU), Nalanda is the only University in the State of Bihar which is meant for imparting education exclusively through the system of open and distance learning. NOU will conduct a Common Entrance Test for admission to Master of Computer Applications (MCA) program for **140 seats**. **The MCA program is a two-year program approved by Distance Education Bureau (DEB), UGC.** The admission to the MCA program will be based on the rank obtained in the test followed by interview. The Curriculum and Syllabi of Master of Computer Applications (MCA) program offered by NOU are designed considering the needs of different Information Technology firms in India and abroad. MCA degree holders have high potential for jobs in the IT Sector.

ELIGIBILITY CRITERIA TO APPEAR FOR MCA ENTRANCE TEST

Indian Nationals who have passed a Bachelor of Computer Application (BCA) course or Bachelor degree in Computer Science or B.Tech or BSc/B.Com/B.A with mathematics at 10+2 level or at Graduation level.

TEST PATTERN

Nalanda Open University MCA Common Entrance Test (**NOUMCA-CET**) will be conducted with single paper in four parts containing 100 multiple choice questions. Part-I will consist of Mathematics (25 questions), Part-II will consist of Computer Awareness (25 questions), Part III will consist of Analytical Thinking and Logical Reasoning and Part IV will consist of English (25 questions). Total time of the examination will be 120 minutes. The questions will be written in English Language only. The details are given in the table below:

Subject	Total no of questions
Part 1: Mathematics	25
Part II: Computer Awareness	25
Part III: Analytical thinking and Logical Reasoning	25
Part IV: English Communication	25
Total marks	**200 (2 marks for each question)**

(There is no negative marking)

SYLLABUS FOR NOUMCA-CET

MATHEMATICS : (25 QUESTIONS)

Set Theory: Concept of sets – Union, Intersection, Cardinality, Elementary Counting; Permutations and Combinations.

- **Probability and Statistics:** Basic concepts of Probability Theory, Averages, Dependent and Independent events, Frequency Distributions, Measures of Central Tendencies and Dispersions.
- **Algebra:** Fundamental operations in algebra, expansions, factorization, simultaneous linear /quadratic equations, indices, logarithms, arithmetic, geometric and harmonic progressions, determinants and matrices.
- **Coordinate Geometry:** Rectangular Cartesian coordinates, distance formulae, equation of a line, and intersection of lines, pair of straight lines, equations of a circle, parabola, ellipse and hyperbola.
- **Calculus:** Limit of functions, continuous function, differentiation of function, tangents and normals, simple examples of maxima and minima. Integration of functions by parts, by substitution and by partial fraction, definite integrals, applications of definite integrals to areas.
- **Vectors:** Position vector, addition and subtraction of vectors, scalar and vector products and their applications to simple geometrical problems and mechanics.
- **Trigonometry:** Simple identities, trigonometric equations, properties of triangles, solution of triangles, heights and distances, general solutions of trigonometric equations.

COMPUTER AWARENESS : (25 QUESTIONS)

- **Computer Basics:** Organization of a computer, Central Processing Unit (CPU), structure of instructions in CPU, input/output devices, computer memory, and back-up devices, Internet.
- **Computer Networks**: Network models, Internet model, OSI model, Physical Layer - Analog and Digital Signals, Analog and Digital Transmission, Coding, Sampling. Data Link Layer - Error detection and correction, Data link control and Protocols, Stop and wait, Go-back-n, Selective repeat. Network Layer - Inter-networks, Addressing, unicast and multicast routing, Presentation Layer.
- **Programming in C:** Data types, Declarations, Expressions, statements and

Arithmetic, unary, logical, bit-wise, assignment and conditional operators. Control statements: While, do-while, for statements, nested loops, if else, switch, break, Continue, comma operators.

- **Database Management Systems:** DBMS architecture, Data models, data independence, E-R model, normalization, Relational Model: concepts, constraints, languages. Data storage, indexing, query processing, design and programming SQL.
- **Operating Systems:** Process management, Process States, Process Control Block, Process and Threads, CPU Scheduling, Scheduling algorithm, Process Synchronization and Deadlock, Memory management, Virtual memory concepts paging and segmentation
- **Computer Architecture:** Boolean algebra and computer arithmetic, flip-flops, design of combinational and sequential circuits, instruction formats, addressing modes, interfacing peripheral devices, types of memory and their organization, interrupts and exceptions. Von Neumann Computer.
- **Data Representation:** Representation of characters, integers and fractions, binary and hexadecimal representations, binary arithmetic: addition, subtraction, multiplication, division, simple arithmetic and two's complement arithmetic, floating point representation of numbers, Boolean algebra, truth tables, Venn diagrams.

ANALYTICAL THINKING AND LOGICAL REASONING : (25 QUESTIONS)

- The questions in this section will cover logical situation and questions based on the facts given in the passage.

GENERAL ENGLISH : (25 QUESTIONS)

Questions in this section will be designed to test the candidates' general understanding of the English language. There will be questions on the following topics: Comprehension, Vocabulary, Basic English Grammar (like usage of correct forms of verbs, prepositions and articles), word power, synonyms and antonyms, meaning of words and phrases, technical writing.

ADMISSION PROCEDURE

The Admission to MCA program will be based on the merit list prepared by adding the marks obtained in the Common Entrance test and the interview. Reservation Policy of Govt. of Bihar is applicable. Candidates declared qualified in NOU will be allowed to apply for admission to MCA program. The candidates are advised to check website **(www.nou.ac.in)** regularly for updates.

FEE STRUCTURE

Gender	First Year	Second Year
Male	Rs. 20000/-	Rs. 20000/-
Female	Rs. 15000/-	Rs. 15000/-

CONTACT DETAILS

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