SYLLABUS FOR MCA NUCAT 2024

NUCAT 2024 Syllabus

- NUCAT exam comprises four different sections, namely,
    - Computer Science and Information Technology
    - Mathematics
    - Analytical and Logical Reasoning
    - Proficiency in English Language

NUCAT Syllabus for Computer Science and Information Technology

The topics in this section include the following:

Computer Basics	C Programming
Operating System	Object Oriented Programming using C++

NUCAT Syllabus for Mathematics

The topics in this section include the following:

Calculus	Algebra
Probability and Statistics	Related topics

NUCAT Syllabus for Analytical and Logical Reasoning

The topics in this section include the following:

Puzzles	Diagrams	Analogy	Logic
Verbal Ability	Analytical Ability	Related topics	-

NUCAT Syllabus for Proficiency in English Language

The topics include the following.

Synonyms	Antonyms	Idioms and phrases	Pairs expressing relationships
Grammar	One word Substitution	Sentence Correction	

Section	Topics
Mathematics	Algebra: Fundamental operations in Algebra, Expansion, Factorization, Simultaneous Linear / Quadratic equations, Indices, Logarithms, Arithmetic, Geometric and Harmonic progressions, Binomial Theorem, Permutations and Combinations, Determinants, Matrices, system of linear equations, eigenvalues and eigenvectors, Sets and application to the solution of simultaneous linear equations. Calculus: Limits, continuity and differentiability. Maxima and minima. Mean value theorem. Integration. Probability: Random variables. Uniform, normal, exponential, poisson and binomial distributions. Mean, median, mode and standard deviation. Conditional probability
Computer Science and Information Technology	Computer Basics: Organization of a computer, Central Processing Unit (CPU), Input /Output devices, Computer Memory, Programming Languages, Types of Software, General awareness about Internet, Web Applications, Database Applications and Information Systems. Data Representation: Representation of Characters, Integers and Fractions, Binary, ASCII and Hexadecimal representations. Binary Arithmetic: Addition, Subtraction, Multiplication, Division, Two's complement arithmetic, Floating-point representation of numbers, normalized Floating-point representation. Operating Systems: Evolution of operating systems, types of operating systems, functions of an operating system, modern operating systems, processes. C Programming: Data types, Operators, Conditional Statements, Loop Statements, Arrays, Functions, Structures,

	Unions, Macros, Pointers, Recursion, Pass by value, Pass by Reference. Object Oriented programming using C++: Class, Objects, Data Elements, Methods, Function overloading, static data elements and static methods, Inheritance, Function overriding, virtual functions.
Analytical Ability and Logical Reasoning	Logical Reasoning, Quantitative reasoning and Visuo-spatial reasoning.
Proficiency in English Language	Basic English grammar, vocabulary, comprehension, synonyms, antonyms, sentence correction, word & phrases, jumbled paragraph.