MAHARASTRA COMBINED ENTRANCE TEST

(MAH-MCA-CET)

MASTER OF COMPUTER APPLICATIONS (MCA)

Eligibility :

Minimum 45% of aggregate of marks is required in the qualifying Bachelor's Degree. The candidates appearing for the final semester examination to be held in April/May and whose result will be available on or before 15th August are also eligible for admission.

Pattern of Examination :

The MH-MCA-CET-2004 examination comprises of two papers (objective type) of one hour duration each with negative marking of 1/4th weightage that of correct answer. viz. General Aptitude (GA) and Computer Concepts (CC).

Syllabus :

General Aptitude :

The questions in this paper will cover, logical reasoning, quantitative reasoning, high school mathematics, vocabulary, English comprehension and verbal ability. A good grasp of the following topics of high school mathematics (up to the 12th standard) will be useful :

Algebra : Fundamental operations in Algebra, Expansion, factorization, Quadratic equations, indices, logarithms, arithmetic, geometric and harmonic progression, binomial theorem, permutations and combinations.

Co-ordinate Geometry : Rectangular Cartesian co-ordinates, equations of a line, mid-point, intersections etc., equations of a circle, distance formulae, pair of straight lines, parabola, ellipse and hyperbola, simple geometric transformations such as translation, rotation scaling.

Differential Equations : Differential equations of first order and their solutions, linear differential equations with constant coefficients, homogeneous linear/differential equations.

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

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.

Arithmetic : Ratios and proportions, problems on time-work, distance-speed, percentage, etc.

Basic Set Theory and Functions : Set, relations and mappings.

Mensuration : Areas, triangles and quadrilaterals area and circumference of circles, volumes and surface areas of simple solids such as cubes, spheres, cylinders and cones.

Computer Concepts :

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 amd fractions binary and hexadecimal representations, Binary Arithmetic Addition, subtraction, division, multiplication, signed arithmetic and two's complement arithmetic, floating point representation of numbers, normalized floating point representation, Boolean algebra, truth tables, Venn diagrams.

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

Computer Language : Assembly language and high level language, Multiprogramming and time sharing operating systems, Computer Programming in C.

Operatic System in Basics : Multiprogramming and timeshaing operating systems.