

## SYLLABUS FOR MET-2012 (MBA) AND PAM-CAT-2012 (MCA) AND SAMPLE QUESTIONS

(Paper I, II and III are common for MBA/MCA Candidates)

### PAPER- I : MENTAL AND NUMERICAL ABILITY (OBJECTIVE)

**Time : 50 minutes**

**Questions : 50**

**Marks: 50**

This paper will have the topics of logical reasoning, graphical analysis, analytical reasoning, quantitative comparisons, series formation, arithmetic calculations such as profit and loss, interest, ratio, proportion, averages, etc.

### PAPER-II : GENERAL KNOWLEDGE (OBJECTIVE)

**Time: 50 minutes**

**Questions: 50**

**Marks: 50**

This paper will cover the general awareness about international, national and regional events, current affairs related to science & technology, ecology, politics, sports, important personalities, books, and historical, political and geographical facts, etc.

### PAPER-III : GENERAL ENGLISH (OBJECTIVE)

**Time: 50 minutes**

**Questions: 50**

**Marks: 50**

This paper will have questions from English language and its usage such as choosing correct spellings, completion of sentences with suitable propositions/articles, word meaning, one word substitution, synonym, antonym, meaning of idioms and phrases, choosing correcting grammatical errors in a part of given sentence, filling the blanks with correct form of verb, adjectives, adverbs, etc.

### PAPER-IV : [A] BUSINESS APTITUDE (OBJECTIVE) [For MBA Candidates Only]

**Time: 50 minutes**

**Questions: 50**

**Marks: 50**

Business aptitude questions will be simple and based on the business environment in the country. Questions will also be asked on personalities in the area of business, brands/companies/product association, abbreviations related to business, etc. But these questions will not be based on any specialized knowledge of the subject.

### PAPER-IV : [B] (i) MATHEMATICS (OBJECTIVE) - OPTIONAL [For MCA Candidates Only]

**Time: 50 minutes**

**Questions: 50**

**Marks: 50**

**Number System** : Natural numbers, integers, rational numbers and real numbers, Complex numbers, real and imaginary parts.

**Coordinate Geometry** : Distance and Section formulae, location of line in a plane, angle between two lines, parallel and perpendicular lines. Location of a circle, conic section, parabola, ellipse and hyperbola.

**Functions** : Algebra of real functions and their graphs, polynomial and rational functions. One to one and inverse functions.

**Trigonometry** : Trigonometric functions, addition formulae, trigonometrically ratios. Solutions of simple trigonometric equation.

**Quadratic Equations and Inequations** : Their solutions, roots of a quadratic equation, relationship between the roots and the co-efficients, nature of roots. Solution of quadratic in equations with their graphic representations.

**Sequence and Series** : AP, GP and their sums.

**Matrices and Determinants** : Types of matrices, rank of a matrix, determinant and its- properties, inverse of matrix, solution of linear equations having a single solution. Cramer's rule.

**Mathematical Operations** : BODMAS

**Algebra**: Set theorem, permutations and combinations, binomial theorem.

**Differential and Integral Calculus** : Differentiation and integration of functions, limits and continuity of a function.

**Statistics and Probability** : Population and sample, measures of central tendency and dispersion, correlation and regression (two variable cases). Probability on a discrete sample space, events, addition and multiplication theorems, conditional probability.

OR

**PAPER-IV [B] (ii) COMPUTER SCIENCE (OBJECTIVE) – OPTIONAL**  
**[For MCA Candidates Only]**

**Time: 50 minutes**

**Questions: 50**

**Marks: 50**

**Computer Fundamentals** : Simple model of a computer, components and their functions, concepts about bit, byte and words, storage device and input/output devices, machine languages, assembly language, high level language, problem solving, flowcharts, pseudo codes and algorithms, system software, application software, compilers, interpreters, assemblers. Types of computers.

**Data Representation** : Integer and floating point representation, codes (ASCII, EBCDIC, BCD).

**Number System** : Decimal, octal, hexadecimal. Binary arithmetic: Addition, subtraction, multiplication and division.

**Computer Architecture** : Boolean algebra, organization of CPU, registers of CPU, interrupts, software and hardware, CPU bus architecture, data transfer schemes, fundamentals of parallel processing, type of memory.

**Data Structures** : Basic Data Structures: Arrays, stacks, queues, linked lists, graphs and trees traversals searching and sorting.

**Operating System** : Batch processing, on-line processing, multi-programming, time sharing, real time processing, introduction to operating system services, CPU scheduling algorithms, memory management schemes.

**Introduction to Data Processing** : Data types, constants, variables, records and files, data processing cycle.

**Basic Concepts of Programming Languages** : Binding, translators, software simulators, binding times, elementary and structured data types, object oriented programming: objects, classes, instances, abstraction, inheritance and polymorphism.

**Overview of DBMS** : Basic DBMS terminology, architecture of DBMS, distributed databases, data models, integrity, security, recovery and concurrency.

**Computer Networks** : Data communications fundamentals, types of communications, need for communication networks, characteristics of communication channels, computer network hardware and software. Reference models: TCP/IP, OSI and introduction to internet.

**Software Engineering** : Phases of SDLC, SRS, design methodologies (Structured design and object oriented design) testing.