K J SOMAIYA INSTITUTE OF MANAGEMENT

Vidyanagar, Vidyavihar(East), Mumbai – 400 077

About Somaiya Entrance Test – MCA (SET-MCA 2020)

Admission to FIRST YEAR MCA programme for the AY 2020-21 at K J Somaiya Institute of Management will be on the basis of Somaiya Entrance Test – MCA (SET MCA - 2020).

Mode of Examination

Somaiya Entrance Test – MCA (SET-MCA 2020) will be conducted online and will comprise of 100 multiple choice questions from:

1. Mathematics and Statistics (30 Questions)
2. Logical Reasoning (30 Questions)
3. English Comprehension and Verbal Ability (20 Questions)
4. Computer and IT Concepts (20 Questions).

Medium of Question Paper will be ENGLISH.

Eligibility

- The candidates having Bachelor's Degree (minimum 3-years duration) awarded by University recognized by University Grants Commission or Association of Indian Universities in any discipline with at least 50% marks in aggregate or equivalent.
- Candidates appearing for final-year examination can also apply.
- The Candidates must have studied Mathematics as one of the subjects at (10+2) level or at Graduate level examination.

Examination Pattern

Mode: Online

Duration: 3 hrs.

Marks: For each correct answer – Two (No Negative marks for incorrect answers)

Topic	Number of Questions	Marks for Correct Answers	Max Marks (200)
Mathematics and Statistics	30	2	60
Logical Reasoning	30	2	60
English Comprehension and Verbal Ability	20	2	40
Computer and IT Concepts	20	2	40

SOMAIYA VIDYAVIHAR UNIVERSITY

Somaiya TRUST

Syllabus for Somaiya Entrance Test – MCA (SET – MCA 2020)

1	**Mathematics and Statistics (30 Questions)** **Algebra:** Real numbers, polynomials, Linear equations in algebra, quadratic equations, Expansion, factorization, logarithms, arithmetic, geometric and harmonic progressions, binomial theorem, permutations and combinations **Probability and Statistics:** Basic concepts of probability theory, descriptive statistics, measures of dispersions and skewness, Binomial, Poisson, normal distributions correlation and regression **Arithmetic:** Ratios and proportions, problems on time-work, distance-speed, percentage **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. **Application of Trigonometry**: Introduction and heights and distances. **References:** 1. MCA entrance examination book by J.V. Subramanyam 2. Arihant MCA Entrance Test by Amit M. Agarwal 3. Excel With Objective Book for NIMCET by J.B Dixit, Ruchi Sharma and Ashish Mangal 4. Numerical Ability and Mathematical Aptitude by Dr. A.B. Rao 5. MCA Test by Anil Kumar Garg 6. Barron's Military Flight Aptitude Tests by Terry L. Duran 7. Mathematics by R.S.Agarwal
2	**Logical Reasoning (30 Questions)** Number Series Verbal Classification Analogy Matching Definitions Verbal Reasoning Reference: 65 Logical Reasoning Questions and Answers for Fresher's
3	**English Comprehension and Verbal Ability (20 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, • Meanings of words and phrases,

	• Technical writing. **Reference:** Wren and Martin English Grammar
4	**Computer and IT Concepts (20 Questions)** **<u>Computer Fundamentals</u>** **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, 1's and 2's complement arithmetic, floating point representation of numbers. **References:** 1. Computer Organization and Architecture, V.Rajaraman, T.Radhakrishnan, PHI. 2. Computer Organization and Architecture, William Stallings, Pearson. **<u>Computer Network and Database Management System</u>** **Computer Networks**: Network Topologies, Protocols, Modes of communication, Transmission media, ISO - OSI model, TCP/IP **Database System Concepts**: Database Architecture, Database Users, Data models, Data Independence, Entity relationship Diagram, Key Constraints **References:** 1. Korth, Silberchatz, Sudarshan, "Database system Concepts", McGraw Hill 2. Elmasari and Navathe, Benjamin Cummins ,"Fundamental of Database System", Pearson Education 3. Forouzan B A, Data Communications and Networking, 4th edition, Tata McGraw-Hill 4. Tanenbaum A S, Computer Networks, 4th edition, Pearson Education **<u>Operating System Fundamentals</u>** **Operating system introduction:** what is operating system, times sharing systems, personal computer systems, computer system operation **Process:** Threads, process, process scheduling **CPU Scheduling:** Scheduling algorithm, scheduling criteria, multiprocess scheduling **Memory Management:** Logical address versus physical address, pagin, segmentation, contiguous allocation **Virtual Memory:** Page replacement, demand paging, page replacement algorithms **References:** 1. Silberchatz and Galvin, Operating System Concepts, 6th Edition, John Wiley & Sons, Inc., 2004 2. Milinkovic M., Operating System Concepts and Design, 2nd Edition, McGraw Hill, 1992 3. P.C.Bhatt, An Introduction to Operating Systems-Concepts and Practice, Prentice Hall Of India, 2004

	Programming Concepts **Programming in c:** history, elements of C- tokens, identifiers, data types, operators in C. control statements in c, sequence, selection, and iterations, structured data types in C arrays, struct, union, string, and pointers. **Programming in C++:** history, elements of C++- tokens, identifiers, variables, constants, data types, operators. control statements in c++,sequence, selection, and iterations, class and objects, functions.sss **References:** 1. C: The Complete Reference, Schildt Herbert, McGraw Hill 2. Programming in ANSI C, E. Balagurusamy, McGraw Hill Education **3.** Object-Oriented Programming with C++, E. Balagurusamy, McGraw Hill Education, C++: The Complete Reference, Schildt Herbert 4th Edition, McGraw Hill

Schedule of Events

Particulars	Dates
Last Date to fill online Application form	28th April 2020
Issue of Hall Tickets	4th May 2020
Somaiya Entrance Test – MCA (SET-MCA)	16th May 2020 (09.00 a.m. to 12.00 noon) (3 hours)
Announcement of Final Results	29th May 2020 (12.00 noon IST)
Programme Commencement	15th June 2020