

References :

1. Rajaraman. V., "Fundamental of Computers" (2nd Edition), Prentice Hall of India, New Delhi, 1996.
2. Sanders, D.H. "Computers Today", McGraw Hill, 1988
3. Trainer, T.et.al., "Computers" (4th Edition), McGraw Hill, 1994

MCA-102 : Computer Programming and Problem Solving using C

Total Marks: 100

Time:3 Hour

Note: Examiner is requested to set eight questions covering the whole syllabi. A candidate is required to attempt any five questions. All questions shall carry equal marks.

Introduction to algorithms, Flow charts, Tracing flow charts, Problem solving methods, Need for computer languages, Reading programs written in C language, C character set, Identifiers and Keywords, Data types, Declarations, Expressions, statements and symbolic constants, Input-Output: getchar, putchar, printf, gets, puts functions. Preprocessor commands, #include, Define, ifdef, preparing and running a complete C program.

Operators and expressions, Arithmetic, Unary, Logical, bit-wise, assignment and conditional operators, Library funtions, Control statements, While, do-while, for statements, nested loops, if else, switch, break, continue and goto statements, comma operators.

Functions: Defining and accessing: Passing arguments, Function prototypes, Recursion, Use of library functions, Storage classes: Automatic, external and static variables, Arrays: Defining and processing, Passing to a function, Multidimensional arrays, Strings, operations on strings.

Pointers: Declarations, Passing to a function, Operations on pointers, Pointer and arrays,

Computer Science”, Prentice-Hall of India Pvt. Ltd.

4. Kenneth G. Rosen, “Discrete Mathematics and Its Applications”, McGraw-Hill International Editions, Mathematics Series.

MCA-206 : Communication Skills - Scientific and Technical Writings

Total Marks: 50

Time: 3 Hour

Note: Examiner is requested to set eight questions covering the whole syllabi. A candidate is required to attempt any five questions. All questions shall carry equal marks.

Basics of Communication Skills Vis-&-Vis Scientific and Technical organizations, Flow of Communication in various scientific and technical organizations: upward, downward, lateral, Communication networks in the scientific and technical organizations, History of various scientific and technical developments, Awareness of general and applied scientific and technical events, Popularization of scientific and technical writings, Achievements of well known scientists of the world, Precautionary measures in scientific and technical writings, Media coverage of scientific and technical writings. Writing science feature, article, editorial, Special article, Interviewing a scientist, facing a press conference by a scientist, Writing a Press Release on the subject relating to science and technology, Delivering a public speech on the matter relating to Science and Technology.

References :

1. K: K. Sinha, “Business Communication”, Galgotia Publishing Company.
2. H. Yushki Aritshus, “COMMUNICATION CULTURE & DEVELOPMENT”.
3. Fry Roland, “MANUAL OF COMMERCIAL CORRESPONDENCE”.
4. D. Joel Whalen, “I See What You Mean”, Sage Publication.

MCA-301 : Computer Networks

Total Marks: 50

Time: 3 Hour

Note: Examiner is requested to set eight questions covering the whole syllabi. A candidate is required to attempt any five questions. All questions shall carry equal marks.

Introduction, History and Development of Computer Networks, Advantage of Computer Networks, Topologies, Network Hardware, Network Software, OSI and TCP/IP reference models.

Physical Layer : Theoretical basis for data communication, transmission media, type of transmission.

Medium Access Sublayer : Channel allocation Problem in Multiple access protocols.

Local Area Networks : Introduction, Why Lan, Primary attribute of LAN, IEEE LAN standards : 802.3, 802.4, 802.5, 802.6 (MAN), FDDI

Data Link Layer : Design Issues, Error detection and Correction, Elementary data link Protocols, sliding window protocols.

Network Layer : Design issues, Routing algorithms, Congestion Control algorithms, internetworking.

Transport Layer : The transport service, Elements of transport protocols.

Application Layer : Network Security, DNS, E-Mail, SNMP, USENET, Worldwide Web, Multimedia

Introduction of ISDN and ATM.

References :

1. Tannenbaum A.S., "Computer Networks", PHI, 4th ED., 2003.
2. Uyen Black, "Computer Networks", PHI, 2nd ED., 2001.

MCA-302 : Object Oriented Programming using C++

Total Marks: 100

Time: 3 Hour

Note: Examiner is requested to set eight questions covering the whole syllabi. A candidate is required to attempt any five questions. All questions shall carry equal marks.