Paper Code:BCA 107 **L T C**
Paper ID: 20107 **3 1 4**
Paper: Introduction to Computers and IT
Pre-requisites:None
Aim: To provide the students Basic knowledge of computers and information technology.
Objectives
This is an elementary course in computers and information technology. Upon completion of this course the student should be able to:

- Discuss the evolution of computers in different generations.
- Classify computers in different categories based on their capabilities.
- Describe the major components of computers and information technology applications: Hardware, software, data, processes, computer networks and people.
- Demonstrate an understanding of the importance of algorithms in the development of IT applications.

INSTRUCTIONS TO PAPER SETTERS: Maximum Marks: 75
1. The paper setters are required to restrict upto the overview of the concepts.
2. Question No.1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
3. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be 12.5 marks.

UNIT – I
Introduction to Computers:
The evolution of computers: Computer Generation from First Generation to Fifth Generation. Classifications of Computers: Micro, Mini, Mainframe and super computers, Distributed Computer System, Parallel Computers.
Computer Hardware: Major Components of a digital computer, Block Diagram of a computer Input-output devices, Description of Computer Input Units, Output Units. CPU.
Computer Memory: Memory Cell, Memory Organization, Read Only Memory, Serial Access Memory, Physical Devices Used to construct Memories, Magnetic Hard disk, floppy Disk Drives, Compact Disk Read Only Memory, Magnetic Tape Drives. [T1][R1] **[No. of Hrs: 12]**

UNIT – II
Interaction With Computers:
Computer Software: System software, assemblers, compilers, interpreters, linkers Elementary Operating System concepts, different types of operating systems, Application Software: Introduction to MS Office (MS-Word, MS Powerpoint, MS-Excel) Computer Programming and Languages: Algorithms, flow chart, decision tables, pseudo code, Low level languages and introduction to high level languages. [T1][T2][R3] **[No. of Hrs: 12]**

UNIT – III
Computer Number System: Decimal, Binary, Octal, Hexa-decimal.**Conversion:** Decimal to all other number systems, Binary to octal and hexa decimal, Addition of binary numbers, Binary subtraction, Use of complements to represent negative numbers, Conversion of a binary fraction to a decimal fraction and decimal to binary fraction, Binary Coded Decimal(BCD), ASCII Codes, EBCDIC codes, Gray codes, Unicodes.[T1][R1]
[No. of Hrs: 10]

UNIT – IV

Computer Network & Internet

Basic elements of a communication system, Data transmission modes, Data Transmission speed, Data transmission media, Digital and Analog Transmission, Network topologies, Network Types (LAN, WAN and MAN), Client and Servers , Intranet, Extranet.

Internet: Terminologies related to Internet: Protocol, Domain name, IP address, URL, World Wide Web.

Overview of various services on Internet: E-mail, FTP, Telnet, Chat , Instant Messaging.

[T1][T2][R1][R2] **[No. of Hrs: 10]**

TEXT BOOKS

[T1] P. K. Sinha & Priti Sinha , "Computer Fundamentals", BPB Publications, 1992.

[T2] Anita Goel "Computer Fundamentals", Pearson.

REFERENCE BOOKS

[R1] B.Ram Computer fundamentals Architecture and Organization,New Age Intl.

[R2] Alex Leon & Mathews Leon, "Introduction to Computers", Vikas Publishing .

[R3] Norton Peter, "Introduction to computers", 4th Ed., TMH, 2001.

[R4] Vikas Gupta, "Comdex Computer Kit", Wiley Dreamtech, Delhi, 2004.