Course 103: Introduction to Computers

Course Code	103
Course Title	Introduction to Computers
Credit	4
Teaching per Week	4 Hrs
Minimum weeks per Semester	15 (Including Class work, examination, preparation etc.)
Review / Revision	June 2017
Purpose of Course	A computer is a device that can receive, process and store data. They are used as tools in every part of society together with the Internet. Computers nowadays are complex; there are lot of different components inside them, and they all serve different purposes. They all need to work together for the computer to work; knowing how a computer works makes it easier to use a computer by being able to understand how a computer will respond.
Course Objective	The objective of this course is to provide knowledge of functional units, Number System, devices and memory & its storage.
Pre-requisite	Fundamental Knowledge of Computers
Course Out come	After studying this subject, students will get knowledge of functional units, Number System, devices and memory & its storage.
Course Content	**Unit 1. Introduction** 1.1. History of Development 1.2. Generation of Computers 1.3. Types of Computers-Microcomputers, Minicomputers, Mainframes, Super Computers 1.4. Hardware, Software & Firmware **Unit 2. Basic Computer Architecture** 2.1. Block Diagram & Functional Units 2.2. Various hardware components: Mother board, Processor, Memory, ports 2.3. Phases of Machine cycle 2.3.1.Fetch Cycle 2.3.2.Execution Cycle 2.4. BIOS, POST **Unit 3. Number Systems** 3.1. Various number systems (Binary, Octal, Hexadecimal, Decimal) 3.2. Conversion among various number systems (Consider all possible combinations from one number system to other number system) 3.3. Binary addition & subtraction 3.4. Hexadecimal addition & subtraction 3.5. Parity Scheme 3.6. ASCII Character Code **Unit 4. Memory** 4.1. Memory organization 4.2. Addressing Modes 4.3. Memory types: RAM, ROM, FLASH, PROM, EPROM, EEPROM 4.4. Concepts of virtual memory, Cache memory

	Unit 5. Storage and I/O Devices 5.1. Hard disk and its architecture 5.2. Back up Devices (Optical Disc, USB) 5.3. Floppy Disks, CD-ROM, DVD ROM 5.4. Keyboard, Mouse 5.5. Printers: 5.5.1.Impact: Dot Matrix, Chain, Drum 5.5.2.Non-Impact: Inkjet, Laser 5.6. Plotters, Scanners, OCR, OMR 5.7. Monitors (CRT, Flat Screen LCD)
Reference Books	1. How computer works: Ron White – Tech media 2. Introduction to Computers – Peter Norton 3. Fundamentals of Computers: V. Rajaraman 4. Introduction to Computer Science – Pearson Education 5. Computer Fundamentals: Pradeep K. Sinha & Priti Sinha (BPB)
Teaching Methodology	Class Work, Discussion, Self-Study, Seminars and/or Assignments
Evaluation Method	30% Internal assessment. 70% External assessment.