B.C.A. Semester – I
BCA-103 : Computer Organization

Teaching Scheme (per week)		Teaching Scheme (Per semester)		Examination Scheme					
				INT		EXT		TOTAL	
Th. (hours)	Pr. (hours)	Total Hours	Credit	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)
4	--	40	4	30	--	70	--	100	--

Unit - 1 **[18 Marks]**

Computer basics

Digital & Analog systems, Logic levels and pulse wave forms, digital computer, Major parts of computer, Hardware, Software - Application and System Software

Computer generations

First generation, Second generation, Third generation, Forth generation, Fifth generation

Classifications of Computers

Palmtop PC, Laptop PC, Personal Computer, Workstations, Mainframe, Supercomputer.

Operating system

Dos, Windows Family

Unit – 2 **[17 Marks]**

Introduction to Computer Parts

Input devices (only principles)

Keyboard, Mouse, Light pen, Joystick, Scanner, Voice input system, Touch screen

Output devices (only principles)

Monitor - CRT terminals (Monitor / VDU)
Non – CRT terminals, LCD, Plasma display, LED
Printer - Dot matrix printer, Ink jet printer, Laser printer, Line printer, Plotter

Storage devices (only principles & types)

Magnetic memory - Magnetic disk, Hard disk, Floppy disk,
Semiconductor memory - RAM, ROM, Flash memory
Optical memory - CD, CD-ROM, CD-RAM, DVD, DVD-ROM, DVD-RAM
Cache memory, Physical & Virtual memory

Communication devices -Modem, NIC, Switch, Hub

Unit - 3 **[18 Marks]**

Number system - Binary, decimal, octal, hexadecimal

Conversion - Binary to decimal, decimal to binary, octal to decimal , decimal to octal, octal to binary, binary to octal, hexadecimal to binary, binary to hexadecimal, hexadecimal to Decimal, decimal to hexadecimal, hexadecimal to octal, octal to hexadecimal

Binary arithmetic – Addition, subtraction (simple method)

Unit - 4 **[17 Marks]**

Logic gates - AND, OR, NOT, NAND, NOR, Exclusive-OR, Exclusive-NOR

Combinational circuits - Half adder, Full adder, Half subtractor, Full subtractor

Binary classification of codes - 8421 BCD code, Excess-3(XS-3) code

Data Processing circuit - Decoder, Encoder

Ref. Books:

1. Fundamentals of computers – By. V. Rajaraman PHI Publication
2. Fundamentals of computers – By. Anand Kumar PHI Publication
3. Fundamentals of computers – By. B. Ram
4. O-Level (Information Technology) - By V.K.Jain (Module- M1.1)
5. Computer Architecture – By K M Hebbar MacMillan Publication

Question Paper Scheme:

University Examination Duration: 3 Hours.

Q.1 - Unit-I (18 Marks)
- A. Objective/ Short Questions.
- B. Descriptive/ Long questions.

Q.2 - Unit-II (17 Marks)
- A. Objective/ Short Questions.
- B. Descriptive/ Long questions.

Q.3 - Unit-III (18 Marks)
- A. Objective/ Short Questions.
- B. Descriptive/ Long questions.

Q.4 - Unit-IV (17 Marks)
- A. Objective/ Short Questions.
- B. Descriptive/ Long questions.

Note: All Objective/ Short Questions are compulsory, no option will be given.