B.Sc-IT 101

Introduction to Information Technology

PART-A

Q 1-Explain memory hierarchy in a computer system with the help of a diagram.

Q2-What is Network Topology ? Explain the advantages and disadvantages of any two network topologies

Q 3-What are Computer Viruses ? Explain the various categories of viruses.

Q4-fine Parallel Processing. Briefly explain the four categories of parallel computers as given by M.J. Flynn.

Q5-Explain memory hierarchy in a computer system with the help of a diagram.

PART-B

Q1-What is Cache Memory ? Explain the advantages of cache memory in a computer system.

Q2-Write the steps involved in creating a PowerPoint presentation to perform the following tasks :

(i) Add a video clip in the PPT file.

(ii) (ii) Add an MS-Excel sheet in the PPT file.

B.Sc-IT-102

Computer Architecture

PART-A

Q 1-What is a Full Adder ? Write the truth table for a full adder and draw its logic diagram.

Q2-What are Instructions ? Explain the factors considered while deciding the instruction length. What are variable length instructions ?

Q3-What are Counters ? Explain the ripple counter.

Q4-What is Random Access Memory (RAM) ? Explain the working of RAM with the help of its logic diagram.

Q5-Explain any four Bit Manipulation instructions of 8086 microprocessor.

PART-B

Q1-What are the different external memories ? Explain seek and latency time in respect to a hard disk.

Q2-Explain any. five of the following with the help of examples/diagrams :

(a) Arithmetic Micro-operations

(b) Control Memory

(c) Subroutine Call

(d) Segment Registers in 8086 Microprocessor

(e) DOS Function Calls in 8086 Microprocessor

(f) Flags in 8086 Microprocessor.

B.Sc-IT-103

Programming Methodology

PART-A

Q 1- Explain the following parameter passing mechanism to functions using an example for each :

(i) **Call By Value**
(ii) **Call By Refrence**

Q2- What is hashing ? Write its significance and advantages.

Q3- Write a program in 'C' language and check whether it is a Palindrome or not.

Q4- Apply quick sort algorithm to sort the following list of elements :

19, 03, 100, 17, 36

Show all steps.

Q5- Write a program in 'C' language that accepts a file as input and prints the number of words in it that end with a vowel.

PART-B

Q1- Write a program in 'C' language to implement Quick Sort.

Q2- Write a program in 'C' language that accepts two matrices as input and provides the resultant sum as output.

B.Sc-IT-104

Computer Network and Data Communication

PART-A

Q1- What are the different types of twisted pair cables ? Explain the feature of each.

Q2- Differentiate between virtual circuit subnet and datagram subnet.

Q3- Which layer(s) of OSI model handles the "Flow Control" ? Explain the functions of this/these layer(s).

Q4- Why is multiplexing needed in data communication system ? Briefly explain TDM and FDM.

Q5-W hat is a Gateway ? How do X.25 gateways link hosts and LANs ? Explain.

PART-B

Q1- Which switching method is used in telephone networks ? Discuss how the message is transmitted.

Q2- How is Selective Repeat ARQ better than Go-Back-N ARQ Protocol ? Explain.