December 2023

B.Sc.(MAC) - I SEMESTER

Fundamentals of Computers (BCA-23-101)

Time: 3 Hours   Max. Marks:75

Instructions: 1. *It is compulsory to answer all the questions (1.5 marks each) of Part -A in short.*

2. *Answer any four questions from Part -B in detail.*

3. *Different sub-parts of a question are to be attempted adjacent to each other.*

PART -A

Q1 (a) What do you mean by flash memory?   (1.5)

(b) What are secondary storage devices?   (1.5)

(c) Differentiate between multi-programming and multi-threading.   (1.5)

(d) Differentiate between compiler and interpreter.   (1.5)

(e) What is a virus?   (1.5)

(f) What do you mean by intranet?   (1.5)

(g) What is assembly language?   (1.5)

(h) Differentiate between top-down and bottom-up programming approaches. (1.5)

(i) What is a cache memory? Why is it useful?   (1.5)

(j) What is data transmission? What are its various forms?   (1.5)

PART -B

Q2 (a) What is operating system? List down the main functions of an operating (10)
system.

(b) Briefly explain the concept of memory hierarchy.   (5)

Q3 (a) What do you mean by virtual memory? What are the advantages of using a (5)
virtual memory?

(b) Draw a block diagram to illustrate the basic organization of a computer system. (10)
Explain the functions of each unit in a computer.

Q4   Explain the role of computers in the following fields: (3*5
(a) Banking   =15)
(b) Education
(c) Data analytics
(d) Medical
(e) Transportation

Q5 (a) What are the main characteristics of a good programming language?   (5)

(b) Discuss various network topologies with suitable diagrams.   (10)