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**326101**

**January 2023**

**B.Sc. (MAC) Ist SEMESTER**

**Computer and Programming Fundamentals (BCA-17-101)**

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**

1. (a) Give the full form of the following : (1.5)  
USB, MICR, LCD
- (b) A sine wave completes one cycle in 50 micro seconds.  
What is its frequency? (1.5)
- (c) What is the function of Linker & Loader. (1.5)
- (d) What are the features of Windows operating system? (1.5)
- (e) What are the capabilities of a computer system? (1.5)
- (f) Name any *three* input and *three* output devices. (1.5)
- (g) Why is assembly language called a machine dependent language? (1.5)

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- (h) What is Virtual memory? (1.5)
- (i) What are the applications of computer systems? (1.5)
- (j) Differentiate between Internet and Intranet. (1.5)

**PART-B**

- 2. (a) Discuss in detail the principal and working of any *two* input and output devices. (10)
- (b) What are the various classes of a digital computer based on their size and configuration? (5)
- 3. (a) What are the various types of errors occurring during programming? (6)
- (b) Differentiate between the following: (9)
  - (i) Primary memory and Secondary memory.
  - (ii) High-level languages and Low-level languages.
  - (iii) Multitasking, Multiprogramming, Multiprocessing.
- 4. (a) Draw a flow chart to print largest out of given three numbers. (6)
- (b) Define Operating System? What are the various tasks performed by an OS? (9)
- 5. (a) Define Computer Virus? What are different types of Computer viruses? What are characteristics of computer viruses? How will you protect your computer system from viruses? (9)
- (b) Define an Algorithm? How it is differed from a Flow chart. Write an algorithm for measuring 4 litres of water if only 5 litre and 3 litre jugs are available. (6)

- 6. (a) Define a Protocol. Discuss in detail any *three* protocols. (9)
- (b) What is network topology? Discuss various network topologies with their advantages and disadvantages. (6)

- 7. Write note on the following : (15)
    - (a) Characteristics of a good program.
    - (b) Documentation.
    - (c) Various modes of data communication.
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