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Roll No. 2392192.....

TBC-101/TBD-101

B. C. A. (FIRST SEMESTER)

END SEMESTER

EXAMINATION, Dec., 2023

**COMPUTATIONAL THINKING AND
FUNDAMENTALS OF IT**

Time : Three Hours

Maximum Marks : 100

- Note :** (i) All questions are compulsory.
- (ii) Answer any *two* sub-questions among (a), (b) and (c) in each main question.
- (iii) Total marks in each main question are **twenty**.
- (iv) Each sub-question carries 10 marks.
1. (a) What do you understand by general problem-solving techniques ? Explain with its steps. (CO1)

P. T. O.

- (b) Explain the following in detail : (CO1)
- (i) Pseudocode
 - (ii) Data types
- (c) Define data and information with its differences. (CO1)
2. (a) What is flowchart ? Make a flowchart for finding if the given number is even or odd. (CO2)
- (b) Explain algorithm and its examples. Write an algorithm to find the greatest of three numbers. (CO2)
- (c) What is sequential, branching and looping in flowchart ? Explain with examples. (CO2)
3. (a) What is a computer ? Explain the block diagram of computer and its characteristics in detail. (CO3)
- (b) Define the following : (CO3)
- (i) Generations of computer
 - (ii) Classification of computer

(3)

- (c) What do you understand by input and output devices ? Explain any *five* I/O devices in detail. (CO3)
4. (a) Explain the following terms : (CO4)
- (i) Software and its types
 - (ii) Operating system
- (b) What do you understand by data storage ? Explain primary and secondary storage in detail. (CO4)
- (c) Define programming languages with its types. (CO4)
5. (a) Explain network types in detail with suitable diagram. (CO5)
- (b) Calculate the following :
- (i) $(567)_8 = ()_{16}$
 - (ii) $6E8C + B3AD = ?$
 - (iii) 1's complement of -45
 - (iv) Decimal 7 in Gray Code
 - (v) $(6015)_8 - (3762)_8 = ?$
- (c) Explain the following terms :
- (i) Data communication
 - (ii) Network protocols