

H

Roll No.

TMC-101

M. C. A. (FIRST SEMESTER) END SEMESTER

EXAMINATION, Jan., 2023

**COMPUTER FUNDAMENTALS AND
PROGRAMMING METHODOLOGY USING 'C'**

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) Differentiate between flow chart and algorithm. Draw the flowchart to compute simple interest. (CO1)

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- (b) Explain program design methodologies with the help of suitable examples. (CO1)
 - (c) What are translators ? Compare similarities and dissimilarities between compiler and interpreter with example. (CO1)
2. (a) What do you understand by storage classes in C ? Compare different storage class in respect to initial value, storage location, scope and life span. (CO2)
- (b) What do you understand by keywords in C ? Explain five keywords with meaning and their usage. (CO2)
- (c) Define data types. Explain various data types with its memory allocation. (CO2)
3. (a) What do you understand by operators ? Explain various operator with its precedence and associativity. (CO3)
- (b) Compare break and continue statements with the help of C program. (CO3)

(3)

- (c) How bitwise operators are different from logical operators ? Write a C program to demonstrate bitwise operators. (CO3)
4. (a) Define array. Explain different types of arrays and write a C program to search elements in unsorted 1D array. (CO4)
- (b) What do you understand by recursive function ? Write a C program to calculate factorial using recursion. (CO4)
- (c) Explain various pointer arithmetic with the help of program. Differentiate between call by value and call by reference with the help of program. (CO4)
5. (a) Explain structure in C. How is structure different from union ? Write a program to print details of students using structure. (CO5)
- (b) Explain any *five* string manipulation library functions with examples. (CO5)
- (c) Demonstrate read and write operation in different mode using C program. (CO5)

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