M.Sc. I SEMESTER [MAIN/A.T.K.T.] EXAMINATION
DECEMBER 2022 - JANUARY 2023

COMPUTER SCIENCE
Paper - IV

[Programming and Problem Solving Through 'C']

[Max. Marks : 75]   *[Time : 3:00 Hrs.]*   *[Min. Marks : 26]*

Note : Candidate should write his/her Roll Number at the prescribed space on the question paper.
Student should not write anything on question paper.
Attempt five questions. Each question carries an internal choice.
Each question carries **15 marks.**

Q. 1 a) What is the methodology to solve a problem using computer ?   **(7 marks)**

    b) What do you mean by Algorithm ? Explain types of algorithm ?   **(8 marks)**

OR

    a) Explain types of programming languages in detail ?   **(7 marks)**

    b) Define flowchart with example and discus different symbols used in flowchart.   **(8 marks)**

Q. 2 a) Explain formatted and unformatted console input and output functions in C.   **(7 marks)**

    b) What do you mean by Command Line Arguments ? Explain with example.   **(8 marks)**

OR

    a) What do you understand by Decision Making Statements ?   **(7 marks)**

    b) Explain the following -   **(8 marks)**

      i) enumerations.

      ii) bit fields.

      iii) typedef.

      iv) type casting

Q. 3 a) Write a C program for sequential search ?   **(7 marks)**

    b) How selection sort works ? Explain.   **(8 marks)**

OR

    a) What is String ? Write any five string handling functions with example.   **(7 marks)**

    b) What is Array ? Write a C program to calculate sum of first N prime numbers.   **(8 marks)**

Q. 4 a) What is Structure ? What do you understand by array of structure ? Give a suitable example. **(7 marks)**

b) Discuss Recursion ? Explain types of recursion with example. **(8 marks)**

OR

a) What is Pointer ? Explain pointer to array and array of pointers with example. **(7 marks)**

b) What is Function ? Explain different categories of function based on prototype with example. **(8 marks)**

Q. 5 a) What is File Handling in C ? Discuss types, operations and modes of file ? **(7 marks)**

b) Explain following function with syntax - **(8 marks)**

   i) setcolor( )

   ii) setfillstyle( )

   iii) outtextxy( )

   iv) setlinestyle( )

OR

a) How to create and include header file in C. **(5 marks)**

b) Discuss any five pre-processors in detail with example. **(10 marks)**

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