

23/157-C**B.C.A. (First Semester)****Examination, 2023****Paper : III (103)****(Programming Principles and C Language)***Time : Three Hours] [Maximum Marks : 70***Note :** Attempt questions from **all** sections as per instructions.**Section-A****(Very Short Answer Type Questions)****Note :** Attempt **all** parts of this questions. Give answer of each part in about **50** words.

$$1.5 \times 10 = 15$$

1. (i) Define Algorithm.
- (ii) Explain ternary operator.
- (iii) What is type casting?
- (iv) What is recursion?
- (v) Define array with an example.

P.T.O.

- (vi) Differentiate ⁽²⁾ between a local and a static variable.
- (vii) What is function prototype?
- (viii) What is the use of break and continue?
- (ix) Define pointer with example?
- (x) What is enumerated data type?

Section-B**(Short Answer Type Questions)****Note :** Answer **all** questions. Give answer of each question is **200** words. $7 \times 5 = 35$

2. Explain basic data types available in C with the help of example.

OR

Draw a flow chart for printing 10 odd numbers.

3. Write a C program to swap two integer numbers without using the temporary variable.

OR

Write a program to find the sum of digits of an integer number entered by the user.

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- (3)
4. What are the string handling functions available in C? Write user defined functions for string copy, string compare and substring.

OR

Explain with example relationship between single dimensional array and pointers.

5. What is difference between structure and union? Explain with example.

OR

Explain with example passing of structure to function.

6. Write a program to create a file and display its contents. Assume suitable data.

OR

Write a program in C to reverse the contents of a file using random access file mode.

Section-C

(Long Answer Type Questions)

Note : Attempt any **two** questions. Give answer of each question in about **500** words.

10×2=20
P.T.O.

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- (4)
7. What is an array? Write a program to compute Mean and Median using arrays.
8. Write a program in C to count the frequency of vowels in a given string.
9. Write a C program to compute the EMI amount for a customer's purchase on loan using switch control statement.
- | Number of Years | EMI |
|-----------------|-------------|
| 1 | 10% of loan |
| 2 | 11% of loan |
| 3 | 12% of loan |
10. What is the purpose of header files? Give examples.
11. Write a C program to check whether all the elements in a given array of 'n' elements are distinct.

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