M. Sc. (Ele) (Sem. II) (CBCS) Examination

August / September - 2020

The C Language : Paper - V

Faculty Code : 003

Subject Code : 1152001

Time : $2\frac{1}{2}$ Hours]   [Total Marks : **70**

1   Answer the following questions in brief : (Any **Seven**)   **14**

(1)   Explain the goto statement.

(2)   What is meant by storage class? Enlist various storage classes available in C.

(3)   Categorize functions based on argument and return.

(4)   Write a C program to find length of given string.

(5)   Explain conditional operator.

(6)   What is difference between entry controlled and exit controlled loops?

(7)   Differentiate between an array and string.

(8)   What is the difference between pass by value and pass by reference?

(9)   How a pointer as argument is useful?

(10) Write a C program that generates pattern as shown below for n rows.

1

1   2

1   2   3

2 Attempt any **two** of the following questions : (Each 7 Marks) **14**

(1) Briefly explain declaration and initialization of two-dimension and multi-dimension arrays.

(2) Write a short note on scale factors for pointers. Also write a program using pointer to receive two matrices from console, add the matrices and print the resultant matrix on console.

(3) What is user-defined function? Write a detailed note on classification of user defined function with reference to arguments and returns.

3 Answer the following questions :

(1) Write a program to print following pattern on console 5 for n rows.

```
        0
     -1  0  1
  -2  -1  0  1  2
```

(2) Write a detailed note on structure definition, declaration 5 and initialization.

(3) Explain formatted output using prinf function in detail. **4**

OR

3 Answer the following questions :

(1) Explain in detail the storage classes of C. **5**

(2) Write a program to arrange an array of 10 **5** integers in descending order.

(3) How one can declare constants in C? **4**

4 Answer the following questions :

(1) Mentioning syntax explain the functions strcat(), **5** strcpy and strcmp().

(2) Write a program to receive two matrices from console, **5** multiply the matrices and print the result matrix on console.

(3) Write a short note on initialization of one-dimensional **4** array.

5 Answer any **two** of the following questions :   **14**
(Each 7 Marks)

(1) What are the advantages of pointers?
Also explain how pointers can be used to access arrays of one or multi-dimensions.

(2) With neat diagram and suitable example, explain the control flow in a multi-function program.

(3) Explain for loop with necessary flow chart. Also write a C program to read an array of 10 integers and arrange the same in ascending order.

(4) What is structure?
Write a program using structure to collect and print student data in the format given for n number of students.

- Data set contains student name, surname, marks of 6 subjects, percentage and result in grades $[O(>=90), \quad A(>=80), B(>=70), C(>=60), D(>=50), E(>=40), F(<40)]$

- Data is to be printed on console in tabular form.

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