

[Time:2.30 Hrs]

[Marks:75]

Please check whether you have got the right question paper.

- N.B:
1. All question is compulsory.
 2. Figures to the right indicate full marks.
 3. Students answering in the regional language should refer in case of doubt to the main text of the paper in English.

Q I. Attempt any FOUR of the following:**(20 Marks)**

- a) Write a short note on the basic structure of C program.
- b) What is the importance of comments in C program
- c) Write a program to accept the input from the user. If the user enters a character, display a message informing that it's a character. If it's a digit, inform accordingly. Similarly display appropriate message for special characters.
- d) Differentiate between = and == using suitable code in C programming language.
- e) Write a C program to print odd numbers from 1 to 20 in descending order using do-while loop.
- f) State the syntax and explain the functioning of *for()* with suitable examples.

Q II. Attempt any FOUR of the following:**(20 Marks)**

- a) What are multi-dimensional arrays? How one can access an array element? Explain with the help of an example.
- b) Explain the working of *getchar()* and *putchar()* functions with suitable examples.
- c) Write a C program to perform concatenation operation of string with and without using *strcat()*. Provide output for the program.
- d) What is *strcmp()* ? Explain with appropriate example for each of its cases.
- e) Define recursion. Write a program to calculate the factorial of a number entered by the user, using recursion.
- f) Consider an array of unsorted number of elements. Write a C program to find duplicate elements in the array. If they exist, then replace the second occurrence of that number with 0.

Q III. Attempt any FOUR of the following:**(20 Marks)**

- a) What is pointer? How is pointer initialized?
- b) Explain working of *calloc()* with suitable example.
- c) Write a C program to create an array of 3 elements for structure to store id, name and percentage of student. Accept record from user and print the same.
- d) What does the *sizeof* operator do? Explain with suitable example.
- e) Discuss the working of following functions
 - i. *fopen()*
 - ii. *fclose()*
 - iii. *fprintf()*
 - iv. *getw()*
 - v. *putw()*
- f) Write a C program to create a file to accept details about students like *ClassName*, *RollNo*, *StudentName* through the keyboard into the file 'SOURCE'. Print the content of 'SOURCE' file.

Q IV. Attempt any THREE of the following:**(15 Marks)**

- a) What are relational operators? Write a C program to show implementation of relational operators.
 - b) With the help of an example explain formal parameters and actual parameters.
 - c) What is a file? List and explain any 4 functions available for handling file operations in C.
 - d) Write a short note on implicit type conversion. Explain with a suitable example.
 - e) Write a short note on global and local variables.
-