M.Sc.(Electronics) (CBCS Pattern) Semester - I

PSCELET04 - Paper-IV : Programming in C

P. Pages : 2 **GUG/S/23/11157**

Time : Three Hours * 1 3 3 5 * Max. Marks : 80

Notes : 1. All question are compulsory and carry equal mark.
2. Draw flow chart wherever necessary.

Either:-

1. a) Write short notes on **8**
i) Assembler
ii) Interpreter
iii) Compiler

b) What is flow chart? How does it differ from algorithm? Draw and state the purpose of various symbols used in a flowchart? **8**

OR

c) What are the various operators supported in C? Explain each operator with an example? **8**

d) Write a 'C' program that will obtain the length and breadth of a rectangle from the user and computes its area and perimeter. **8**

Either:-

2. a) State and explain the various looping statements in 'C' with their syntax. **8**

b) Write a program to compute the sum of digits of a given integer number. The number is input through keyboard. **8**

OR

c) Explain the following with suitable example. **8**
i) The switch statement and
ii) The break statements

d) Write a program in 'C' to read values of four variable a, b, c and d from the terminal and evaluate the ratio of (a+b) to (c+d) and print the result, if c-d is not equal to zero. **8**

Either:-

3. a) Define a structure. Explain the structure initialization with an example. **8**

b) What is recursion. Write a program in 'C' to find factorial of a given number? **8**

OR

c) Explain the following string function: **8**
   i) Strcat( )
   ii) Strcmp ( )
   iii) Strcpy ( )
   iv) Strlen ( )

d) What are 'subscripted' variables? Explain the memory representation of an array? **8**

Either:-

4. a) What is a pointer variable? Explain declaration and initialization of a pointer. Give the rules used for pointer arithmetic. **8**

b) What are the command line argument? Explain. **8**

OR

c) Explain the various operating modes of files in 'C'. **8**

d) Write a program to read data from the keyboard, write it to a file called INPUT again read the same data from the INPUT file and display it on the screen. **8**

5. a) Explain the basic structure and execution of a 'C' program. **4**

b) Write a 'C' program to find simple interest. **4**

c) Compare array and Union in 'C' **4**

d) State the limitations of 'C' programming. **4**

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