ESC103 - Programing for Problem Solving

P. Pages : 2

Time: Three Hours

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GUG/S/25/13172

Max. Marks : 80

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Notes : 1. All questions carry equal marks.
2. Assume suitable data wherever necessary.
3. All Question are compulsory

1. a) Discuss about history of C language and it's features. **8**

b) Write a program to calculate simple interest (i=(p*r*n)/100). i = Simple interest, p= Principal amount, r = Rate of interest, n= Number of years. **8**

OR

2. a) Explain different types of memory in detail. **8**

b) Write an algorithm to find the sum of numbers from 1 to N. **8**

3. a) Write a c program to print a square of a number and mention which key world and datatype used in that program. **8**

b) Explain switch case statement with its rules, syntax and flowchart. **8**

OR

4. a) How to define variable and Explain it's types. **8**

b) Write a C program to swap two numbers without using a third variable. **8**

5. a) What is Recursion? Explain with example. **8**

b) Write a program to print smallest number among 3 variables and print it. Draw flowchart for the same. **8**

OR

6. a) Write a program to print Fibonacci series upto 30 numbers. **8**

b) Write a C program to check whether entered alphabet is vowel or consonant using if else. **8**

7. a) Write a C program to print the following output using nested loops. **8**
```
   1
  2 2
 3  3  3
4  4  4  4
```

b) Explain array. How data is stored in array? Explain different types of array. **8**

OR

8. a) Write a C program for addition of two matrices. **8**

b) Write a program to find largest element by using array. **8**

9. a) What is dynamic memory allocation? Write and explain the different dynamic memory allocation functions in C. **8**

b) What is structure. Write structure for phone directory using proper members. Create a directory for 5 persons. **8**

OR

10. a) List string handling library functions. Write a function to compare two strings. **8**

b) Write a C program to swap the two values using pointers. **8**

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