

**FACULTY OF ENGINEERING**  
**B.E. (AICTE) (CE/EE/EIE/ECE/CSE/CME) I-Semester (Suppl.) Examination,**  
**December 2020**

**Subject : Programming for Problem Solving**

**Time : 2 Hours**

**Max. Marks: 70**

**Note: (Missing data if, any can be assumed suitable).**

**PART – A**

**Answer any five questions.**

**(5 x 2 = 10 Marks)**

- 1 What is the difference between compiler and interpreter?
- 2 Write an algorithm to find a given number is prime or not.
- 3 Evaluate the expression  $a * b/c + d - (e * f)/g$  where  $a = 2, b=3, c = 1, d = 4, e = 2, f =3, g = 2$ .
- 4 What is the difference between initialization and assignment? Explain with an example.
- 5 Explain how strcmp() works on strings with examples.
- 6 Write a function to swap two numbers using call by reference.
- 7 Define Recursion. Give example.
- 8 Write the recursive function for factorial.
- 9 What is self-referential structure?
- 10 List any four operations than can perform on files.

**PART – B**

**Answer any four questions.**

**(4 x 15 = 60 Marks)**

- 11 (a) Write a short notes on components of a computer.  
(b) Draw a flowchart to find roots quadratic equation.
- 12 (a) What is a string? Write a program to reverse a string without using any built in functions.  
(b) How does do...while loop differ from while loop? Explain with example.
- 13 (a) Explain different parameter passing methods with example.  
(b) Write a program to sort n elements using selection sort.
- 14 Create a structure student with roll no, name and 3 subject marks. Write a program to print 5 students roll no, name and avg. subject marks using array of structures.
- 15 (a) With example show how pointers are used in self referential structure.  
(b) How break and continue works? Explain with an example.
- 16 (a) Explain about the different operators in C language.  
(b) Explain how binary search works to search a number (25) in the given list  
45 15 25 5 4 2
- 17 (a) Write a program to display contents of a file.  
(b) Explain how arrays are passed to a function.