

Code No: 181AP

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**B. Tech I Year I Semester Examinations, March/April - 2023****PROGRAMMING FOR PROBLEM SOLVING****(Common to CSE, IT, CSIT, CE(SE), CSE(CS), CSE(DS), CSD)****Time: 3 Hours****Max. Marks: 60****Note:** This question paper contains two parts A and B.i) **Part- A** for 10 marks, ii) **Part - B** for 50 marks.

- Part-A is a compulsory question which consists of ten sub-questions from all units carrying equal marks.
- Part-B consists of **ten questions** (numbered from 2 to 11) **carrying 10 marks each**. From each unit, there are two questions and the student should answer one of them. Hence, the student should answer five questions from Part-B.

PART- A**(10 Marks)**

- 1.a) Give example for an Identifier. [1]
- b) What is syntax error? [1]
- c) What does strstr() function do? [1]
- d) Define Pointer. [1]
- e) What fseek() function do? [1]
- f) What is define preprocessor command? [1]
- g) What is void return type indicate? [1]
- h) Define function signature. [1]
- i) Write Time complexity of Binary search. [1]
- j) Write Time complexity of Insertion sort. [1]

ART - B**(50 Marks)**

- 2.a) Write pseudo code to find biggest number of a given set.
- b) Write the syntaxes of While and Do-While loops. Explain. Differentiate between them. [4+6]

OR

- 3.a) Write an algorithm to find the roots of a Quadratic equation.
- b) List out Bitwise operators. Explain each one along with their precedence and associativity. [4+6]

- 4.a) Define an Array. Write a C code for Matrix multiplication using arrays.
- b) Write about Pointer Arithmetic Operations. [6+4]

OR

- 5.a) Define Union? Write the advantages of Union over Structure? Justify your answer?
- b) Write a C code to find string length? [4+6]

- 6.a) Write about various operations that can be performed on files. Write various modes of file operations.
b) Write a C code to read and print the contents of a file. [5+5]

OR

- 7.a) What is the need of Pre-processor commands? Explain.
b) Write a C code to find the number of characters in a file. [4+6]

- 8.a) What is dynamic memory allocation? Why it is required explain?
b) Write a C code to find Factorial of a given number using Recursion. [5+5]

OR

- 9.a) Differentiate call by value and call by reference.
b) Write a C code to print Fibonacci sequence using recursion. [4+6]

- 10.a) Write Linear search algorithm? Explain with example.
b) Write two applications of searching. [8+2]

OR

- 11.a) What is sorting? Explain Selection sort algorithm with example.
b) What is Time complexity? [8+2]

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