R22

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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