R18

Code No: 151AC

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.Tech I Year I Semester Examinations, May/June - 2019

PROGRAMMING FOR PROBLEM SOLVING

(Common to CE, ME, ECE, EIE, MCT, MMT, AE, MIE, PTM)

Time: 3 hours Max. Marks: 75

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

(25 Marks)

1.a) Give a brief note on storage class. [2]
b) Give a note on unions. [2]
c) How can we determine whether a file is successfully opened or not using fopen() function? [2]
d) Give syntax to create a pointer to function. [2]
e) How binary search works? [2]
f) What is a flowchart? How it is different from an algorithm? [3]
g) Write the advantages and disadvantages of using pointers. [3]
h) Write a 'C' program to read a binary file and print it on console [3]
i) Write short notes on dynamic memory allocation. [3]
j) How linear search is different from binary search? [3]

PART - B

(50 Marks)

2.a) Explain typical steps for entering, compiling and executing 'C' programs.
b) Write an algorithm to find the roots of a quadratic equation considering all cases. [5+5]

OR

3.a) Distinguish between all loop statements along with a flowchart and with an example program.
b) Write a program in 'C' to check whether a given integer number is odd or even. [5+5]

4.a) Give a brief note on Enumeration data type.
b) Write a 'C' program to find the biggest number and smallest number of given 'n' numbers using arrays. [5+5]

OR

5.a) Why structures are necessary? Explain Nested Structures with a valid example.
b) Give a detailed note on pointer expressions. [5+5]

6.a) Explain Steps for file operations and different modes of files.
b) Explain about preprocessor commands define, undef. [5+5]

OR

7. Write a program to read a text file, convert all the lowercase characters into upper case and re-write the uppercase characters in the file. [10]

8. What is Recursion? Write a 'C' Program for Towers of Hanoi. Also specify in diagram for it. [10]

OR

9.a) How to pass the structure to functions as an argument? Explain with a suitable example.
b) Explain about Allocating memory for arrays of different data types. [5+5]

10.a) Give a brief note on insertion sort with an example.
b) Discuss the time complexity of the bubble sort. [5+5]

OR

11. Write a program in 'C' to print list of integers in ascending order using bubble sort and selection sort techniques. [10]

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