R18

Code No: 151AC

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech I Year I Semester Examinations, March/April - 2023
PROGRAMMING FOR PROBLEM SOLVING
(Common to CE, ME, ECE, EIE, MCT, MMT, ECM, AE, MIE, PTM, CSBS, CSE(AI&ML), CSE(IOT), AI&DS, AI&ML)

Time: 3 Hours **Max. Marks: 75**

Note: i) Question paper consists of Part A, Part B.
ii) Part A is compulsory, which carries 25 marks. In Part A, Answer all questions.
iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

JNTUH Used papers 2023

PART – A

(25 Marks)

1.a) Define a Flow chart. [2]
b) How to declare a variable? [3]
c) How the pointer variable declared? [2]
d) What do you mean by array of pointers? [3]
e) Difference between *undef* and *ifndef*. [2]
f) Write the use of rewind function. [3]
g) Define formal arguments. [2]
h) Write the syntax of *malloc ()* function. [3]
i) What do you mean by time complexity? [2]
j) Define the best-case performance of an algorithm. [3]

PART - B

(50 Marks)

2.a) Write a detailed note on creating and running the program.
b) Devise an algorithm sum of n numbers using *while* and *for* loop. [5+5]

OR

3.a) Discuss about decision making statements with example.
b) What is an Algorithm? Write an algorithm to find the largest of 3 numbers. [5+5]

4.a) Explain the following functions with an example.
i) strcat ii) strcpy
b) Write a C program to insert a sub-string in to a given main string from a given position. [5+5]

OR

5.a) Explain array of structure with an example.
b) Write a program to find the multiplication of two matrices(size of matrix 2×2). [5+5]

6.a) List the various differences between binary file and text file.
b) Write a C program which copies one file to another, replacing all lowercase characters with their uppercase equivalents. [5+5]

OR

7. Explain in detail file handling functions with example each. [10]

8.a) Discuss the type of functions based on parameters and return type.
b) Write a program in C using functions to swap two numbers using global variables concept and call by reference concept. [5+5]

OR

9.a) Explain the various differences between user defined and library functions.
b) What is recursion? What are the advantages and disadvantages of recursion? [5+5]

10.a) Explain the technique Insertion sort with the help of an example array.
b) Describe the linear search algorithm with an example. Find the time complexity of it in all cases. [5+5]

OR

11.a) Discuss binary search algorithm with an example.
b) Write an algorithm to find the sum of all elements in an array and find the time complexity of it. [5+5]

---ooOoo---

JNTUH Used papers 2023