R19

Code No: 861AC

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
MCA I Semester Examinations, January - 2020
COMPUTER PROGRAMMING AND DATA STRUCTURES

Time: 3hrs   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
                                                              5 ×5 Marks = 25

1.a) What are the different data types available in 'C'?   [5]
  b) Differentiate Break and Continue statement. Give examples.   [5]
  c) What is dynamic memory allocation? What are the various dynamic memory allocation functions?   [5]
  d) Compare arrays and structures.   [5]
  e) What are the applications of stack?   [5]

PART - B
                                                              5 × 10 Marks = 50

2.a) What are the components of the computer systems?
  b) What is Flowchart? What is the need of Flowchart symbols?   [5+5]
OR
3.a) What are Operators? Mention their types in C.
  b) What do you mean by conditional or ternary operator? Explain.   [5+5]

4.   List out the Conditional and Control statements in C and explain with examples. [10]
OR
5.a) What is Recursion? List out merits and demerits.
  b) Explain the following:
     i) Actual and formal arguments   ii) Global and local variables   [5+5]

6.   How arrays are passed to function? Explain with example.   [10]
OR
7.   Write a C program to multiply two matrices using functions.   [10]

8.a) Define self-referential structure with example.
  b) What is an array of structure and give example.   [5+5]
OR
9.   Explain about copying and comparing structure variables with example program. [10]

10. Explain the operations and the implementation of Stack using Linked list.   [10]
OR
11. Sort the following elements using selection sort: 45, 8, 69, 75,14,138, 92,53, 13, 158. [10]

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