

Code No: 181AE

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**B. Tech I Year I Semester Examinations, March/April - 2023****C PROGRAMMING AND DATA STRUCTURES****(Electrical and Electronics Engineering)****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)**

- List out the Primitive data types. [1]
- Define an identifier. [1]
- Write syntax for nested if-else statement. [1]
- Define a Function in C. [1]
- Write syntax for strcpy() function. [1]
- What is pointer to pointer? [1]
- Define the term Union. [1]
- Give example for enumerated type. [1]
- What is LIFO? [1]
- What is the condition to be checked to apply binary search technique on a list? [1]

PART - B**(50 Marks)**

- What is the role of precedence and associativity of operators in expression evaluation? Explain with suitable examples.
- Define Keyword? Explain the role of it in C program? Give few examples. [6+4]

OR

- Write about Relational Operators.
- What do you mean by a computing environment? Explain different kinds of computing environments. [5+5]

- Write the syntax of 'switch' statement? Explain it.
- Write a C program to find multiplication of two matrices using Arrays. [4+6]

OR

- What is the purpose of continue and goto statements.
- Define recursion. Write a C program to find sum of squares of first N Natural numbers using recursion. [2+8]

- 6.a) What is the role of pointers in function parameter passing mechanisms.
b) Explain how to pass array elements to function using pointers. [5+5]

OR

- 7.a) Write about string input and output functions? Give examples.
b) Write a C code to copy two strings into a third string. [5+5]

- 8.a) Explain various types of files? Write the applications of each type.
b) Write a C code to count number of words in a file. [5+5]

OR

- 9.a) Explain how to access structures in C.
b) Write a C code to create a structure of employee information, access the structure and print. [4+6]

- 10.a) Define Queue. Explain various operations of Queues.
b) Write the applications of stack. [6+4]

OR

- 11.a) What is Linked List? Write the creation, insertion and deletion operations performed on Singly linked list?
b) Write the advantages of Linked lists over arrays. [7+3]

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