R16

Code No: 131AD

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech I Year I Semester Examinations, January/February - 2025
COMPUTER PROGRAMMING IN C
(Common to CE, ME, AE)

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)	Differentiate between Algorithm and Flowchart.	[2]
b)	What are the commonly used input functions in C? How are they accessed?	[3]
c)	List down array applications.	[2]
d)	What is recursive function? What are the limitations of recursion? Explain.	[3]
e)	How strings are represented in C? Explain.	[2]
f)	What is a pointer variable? Explain the applications of pointers.	[3]
g)	Explain about enumerated data types with examples.	[2]
h)	What are self-referential structures? Explain.	[3]
i)	Distinguish between fseek and ftell commands.	[2]
j)	Differentiate between text and binary files.	[3]

PART-B

(50 Marks)

2.a)	Explain the steps involved in the development of C algorithms.	
b)	What are operators in C? Explain with example.	
c)	Explain different primary data types used in C language.	[4+3+3]

OR

3.a)	Explain the conversion of Decimal number to Hexadecimal number with an example.	
b)	List the rules required to form variable names in C. Differentiate between declaration and definition of a variable.	
c)	Write a program showing the use of if else and switch statements in C.	[4+3+3]
4.a)	What is a library function? List out different mathematical library functions available in C programming and mention their functions and uses.	
b)	Write a recursive function to print Fibonacci sequence.	
c)	What are the applications of Arrays? Explain.	[3+4+3]

OR

5.a)	Explain the concept of declaring, accessing and storing elements in a 1-dimensional array.	
b)	Write a program to sort the elements by using bubble sort.	[5+5]

6.a) Write a C program to compare two strings for equality without using strcmp( ) function.

b) Write a C program to copy input to output, replacing each string of one or more blanks by a single blank. [5+5]

OR

7.a) Write a C program to access the values of an array of elements using pointer.

b) Write a C program to count the number of vowels, consonants, digits and white-spaces in a string which is entered by the user. [5+5]

8.a) With suitable example in 'C', Illustrate and explain the process of declaring union.

b) Write a program to calculate grade, average marks and total marks in a class of 60 students by using structure concept. [5+5]

OR

9.a) Differentiate between structure and union in 'C'.

b) Write a 'C' program to compute the monthly pay of 100 employees using each employee name and basic pay. The DA is computed as 2.5% of the basic pay, Gross salary (Basic pay + DA). Display the employees name and gross salary. [5+5]

10.a) Write a 'C' program to count the number of characters in a file.

b) Explain various standard library functions for handling files. [5+5]

OR

11.a) Write a C program to copy the content from one file to another file using fseek() function.

b) Explain about various file status/error handling functions in 'C'. [5+5]

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