

R15

Code No: 121AF

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech I Year Examinations, January/February - 2025

COMPUTER PROGRAMMING
(Common to CE, ME, ECE, CSE, MIE)

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.

PART - A

(25 Marks)

- 1.a) What are the steps in program development? [2]
- b) Write a simple C program to demonstrate the use of loops. [3]
- c) Differentiate between local and global variables. [2]
- d) Write a C program to calculate the factorial of a number using recursion. [3]
- e) Explain pointer arithmetic with an example. [2]
- f) Write a C program to reverse a string using pointers. [3]
- g) How are structures initialized in C? Give an example. [2]
- h) Write a program to read and display data from a text file. [3]
- i) Explain the working of linear search with an example. [2]
- j) Describe the steps in implementing a queue using an array. [3]

PART - B

(50 Marks)

- 2.a) Explain different types of operators in C.
 - b) Describe the syntax and usage of if-else and switch-case statements in C. [5+5]
- OR**
- 3.a) How are while, do-while, and for loops different from each other in C?
 - b) Write a C program to print the Fibonacci series up to n terms. [5+5]
- 4.a) Discuss the concept of storage classes in C with examples.
 - b) Explain the use of multidimensional arrays with an example. [5+5]
- OR**
- 5.a) What are preprocessor commands in C?
 - b) Write a program to perform matrix multiplication using 2D arrays. [5+5]
- 6.a) How are arrays and pointers related in C? Explain with examples.
 - b) Write a C program to sort an array of strings. [5+5]
- OR**
- 7.a) Explain different memory allocation functions in C.
 - b) Write a C program to dynamically allocate memory for an integer array. [5+5]

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- 8.a) What are bit fields in structures? Explain with an example.
- b) Describe file positioning functions in C. [5+5]

OR

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- 9.a) Explain the differences between text and binary files.
- b) Write a program to count the number of characters, words, and lines in a text file. [5+5]

- 10.a) Discuss bubble sort with an example program.
- b) Write a C program to implement stack operations using arrays. [5+5]

OR

QA QA QA QA QA QA QA G

- 11.a) Explain the concept of linked lists and their applications.
- b) Write a C program to perform insertion and deletion in a singly linked list. [5+5]

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