

BACHELOR OF TECHNOLOGY (CBCS - 2023)
B. Tech. Sem-I Computer Science & Business Systems : SUMMER : 2025
SUBJECT: FUNDAMENTALS OF COMPUTER SCIENCE

Day : Thursday
Date : 15/05/2025

S-27623-2025

Time : 10:00 AM-01:00 PM
Max. Marks : 60

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate **FULL** marks.
- 3) Assume suitable data **WHEREVER** necessary.
- 4) Draw neat diagrams **WHEREVER** necessary.

Q.1 Explain algorithm, flowchart and pseudocode. Write an algorithm for finding the area of rectangle with flowchart. (10)

OR

Q.1 List and explain operators used in 'C'. (10)

Q.2 Explain selection and decision control statements used in C with example. (10)

OR

Q.2 Explain the syntax of a switch-case statement in C. Write a C program to accept from user an arithmetic operator and two operands, perform corresponding arithmetic operation on the operands using switch case. (10)

Q.3 Explain all Storage Classes with example. (10)

OR

Q.3 Explain Recursion. Write a program to find factorial of a number using Recursion. (10)

Q.4 Write a program that takes an integer array of size N from the user and prints the elements in array. (10)

OR

Q.4 Explain the relationship between pointers and arrays in c. write a program that demonstrates how to use a pointer to iterate through an array and print its elements. (10)

Q.5 Explain how to define a structure in C. Write a program that defines a structure for an Employee with fields for name, emp_number and marks. Create an array of 3 employee, accept and display the data for it. (10)

OR

Q.5 Write a C program that reads a text file and counts the number of lines, words and characters in that file. (10)

Q.6 Explain storage allocation (malloc, calloc, free, realloc) in detail. (10)

OR

Q.6 List and describe five common system calls used in C programming. Include their purpose, parameters and return values with example. (10)
