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

Day : Friday
Date : 12/12/2025

W-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 Define and differentiate between the following terms in C programming. **(10)**

a) Variable
b) Constant
c) Data Types

OR

Q.1 List and explain all arithmetic Operators in C along with their priorities? Evaluate the following expression: **(10)**

```
int x = 8, y = 5;
int result = x /y + 4 * 3 – y;
```

Q.2 Explain all Looping statements used in 'C' with syntax and example. **(10)**

OR

Q.2 Explain syntax of while loop. Write a C program to find weather entered number is prime number or not. **(10)**

Q.3 Explain syntax to define, declare and call a function. Write a program to declare and define a function for computing the power of a number (base and exponent). **(10)**

OR

Q.3 Describe the differences between passing parameters by_value and by_reference in C. Write a C program that demonstrate both methods, using a function to modify value of an integer. **(10)**

Q.4 Explain the concept of pointers in C, including how they are declared, initialized, and dereferenced. Explain with example. **(10)**

OR

Q.4 Explain syntax to declare and initialize an array in C. Write a program to find the maximum value in an array of integers. **(10)**

Q.5 List and describe the basic file modes for text file and binary file used in the fopen() function in C. **(10)**

OR

Q.5 Write a C program that defines a structure called Book to store details about books (title, author and price). Create an array of 3 books, input books details and display them. **(10)**

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

OR

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

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