BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)
B. Tech. Sem - I Computer Science & Business Systems : WINTER : 2024
SUBJECT: FUNDAMENTALS OF COMPUTER SCIENCE

Day : Tuesday
Date : 10/12/2024

W-24133-2024

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 labeled diagrams **WHEREVER** necessary.

Q.1 Explain the various types of operators in C and their use in creating expression for problem solving. **(10)**

OR

Q.1 Explain the concept of a flowchart and notations used to represent different steps decisions. Draw a flowchart that reads the price of an item in decimal form and prints the equivalent price in paise. **(10)**

Q.2 Discuss the use of break and continue statements in loops for flow control and provide an example program in C to find the sum of even numbers between 1 and n using a for loop with break statement. **(10)**

OR

Q.2 Explain the concept of control flow in programming and discuss differences between structured and unstructured programming paradigms with examples. **(10)**

Q.3 Discuss the basic of functions in C programming and explain the concept of parameter passing and returning types with example. **(10)**

OR

Q.3 Discuss block structure and initialization in C programming and provide a program using block structure to calculate the average of student marks for multiple subjects. **(10)**

Q.4 Discuss the concept of pointer? Write a C program to find sum and mean of all elements in an array using pointer. **(10)**

OR

Q.4 Discuss command line arguments in C programming and provide a program that accepts command line arguments to perform file operations like reading and writing. **(10)**

Q.5 Discuss the interaction between structures and functions in C with a program that calculates the total marks of a student using a function that takes a structure as an argument. **(10)**

OR

Q.5 Explain line I/O in C with program to read and write lines from/to a file using fgets and fputs functions. **(10)**

Q.6 How does random access work in Unix using the lseek function, and what are its advantages in file handling. **(10)**

OR

Q.6 Describe the operations of open, create, close and unlink functions in Unix for file management. **(10)**

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