School of Computer Science Engineering (SCOPE)
CONTINUOUS ASSESSMENT TEST - I SLOT: B1
WINTER SEMESTER 2024-2025

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**Programme Name & Branch** : B.Tech & CSE
**Course Code and Course Name** : BCSE102L & Structured and Object-Oriented Programming
**Faculty Name(s)** : VIMALA DEVI K,VINILA JINNY,VISWANATHAN A, BERLIN M A,JASMIN T. JOSE, RAJARAJAN G, KANAGARAJ R, MUCHENEDI HARI KISHOR, GOUTAM MAJUMDER, ARUMUGA ARUN R, RANJITHKUMAR S, JAYACHANDRAN J.
**Class Number(s)** : VL2024250501460, VL2024250501471, VL2024250501482, VL2024250501486, VL2024250501500, VL2024250501505, VL2024250501522, VL2024250501556, VL2024250501564, VL2024250501579, VL2024250501590, VL2024250501596
**Date of Examination** : 28.01.2025
**Exam Duration** : 90 minutes **Maximum Marks: 50**

**General instruction(s):**

- Answer All Questions
- M- Max mark; CO – Course Outcome; BL – Blooms Taxonomy;
- Level (1 – Remember, 2 –Understand, 3 – Apply,4 – Analyse,5 – Evaluate,6 – Create)
- CO1: Understand different programming language constructs and decision-making statements;
- manipulate data as a group.
- CO2: Recognize the application of modular programming approach; create user defined data
- types and idealize the role of pointers.
- Include all necessary header files.
- Every C-program must have a main() function. This is where the program execution begins.

| Q. No | Question | M | CO | BL |
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| 1. | a. Explain the concept of type conversion in C-programming language. Discuss the difference between implicit and explicit type conversion. Provide examples of how incorrect type conversion can lead to unexpected results or errors. | 6 | 1 | 2 |
| | b. Illustrate a C program that uses an unconditional jump to skip a certain portion of code and proceed to the end of the program. | 4 | 1 | 2 |
| 2. | Imagine you're developing a cryptographic module for secure communication. A module that does the following<br>• **Prime number Check:** By efficiently checking whether the number is prime or not.<br>• **Binary representation for key generation:** If a number passes the primality check, its binary representation to be done which is crucial for various cryptographic operations.<br>*Hint: Print binary version of a number if it is prime* | 10 | 1 | 3 |
| 3. | Consider a scenario in a customer support system for an e-commerce platform. The system tracks customer reviews and checks if the review text is a palindrome. If the review text is a palindrome, the system highlights it as a "unique" review; otherwise, it stores the reversed text for further analysis to generate insights on user feedback patterns. | 10 | 2 | 3 |
| 4. | Describe the concept of recursive functions and provide an example of determining GCD of two numbers to illustrate how recursion works. | 10 | 2 | 2 |
| 5. | Imagine a scenario where the teacher wants to store the scores of multiple quizzes for each student. This must be achieved by using a 2D array and pointers to navigate through it. The C-program could then calculate the average score for each student and the highest-scoring student. | 10 | 2 | 3 |

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