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**Re-CAT – I**

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| Programme | | | : | **B. Tech. (ECE/ECM)** | Semester | : | **FS 2024-25** | |
| Course Code &  Course Title | | | : | **BECE320E Embedded C Programming** | Class Number | : | **CH2024250102674** | |
| Faculty | | | : | **Prof. Srinivasan R** | Slot | : | **E1** | |
| Duration | | | : | **90 Minutes** | Max. Marks | : | **50** | |
| **General Instructions:**   * Write only your registration number on the question paper in the box provided, and do not write other information. * Only non-programmable calculator without storage is permitted. | | | | | | | | |
| **Answer all questions.** | | | | | | | | |
| Q. No | Sub Sec. | Description | | | | | Marks | Blooms Taxonomy Level |
| 1. | (a) | What are the primary data types and their typical sizes in C? | | | | | 3 | L1 |
| (b) | Explain bitwise operators in C with examples. | | | | | 4 | L1 |
| 2. | (a) | Write a C program that checks if the given positive integer is a prime number. | | | | | 4 | L3 |
| (b) | What will be the output of the following program?  *#include <stdio.h>*  *int main( )*  *{*  *int i = 5, j = -2, k = 0, w, x, y, z ;*  *w = i || j || k ;*  *x = i && j && k ;*  *y = i || j && k ;*  *z = i && j || k ;*  *printf ( "w = %d x = %d y = %d z = %d\n", w, x, y, z ) ;*  *return 0 ;*  *}* | | | | | 2 | L2 |
| 3. | (a) | Write a C program that prints the numbers greater than 100 and less than 200, which are divisible by 7 and not by 3, and then outputs their sum. | | | | | 4 | L2 |
| (b) | Write a C program to print all the ASCII values and their equivalent characters using a while loop. The ASCII values vary from 0 to 255. | | | | | 4 | L2 |
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| 4. | (a) | What is the output of the following code? | | | | | 4 | L3 |
| (b) | Consider a currency system with notes of seven denominations: Re. 1, Rs. 2, Rs. 5, Rs. 10, Rs. 50, Rs. 100. If a sum of Rs. N is entered through the keyboard, write a C program using if-else blocks to compute the smallest number of notes that will combine to give Rs. N. | | | | | 5 | L2 |
| 5. |  | Shown below is an example of Floyd’s triangle for n=5. Write and execute a C program to get the number of rows (n) from the user and print the triangle.  1  2 3  4 5 6  7 8 9 10  11 .. .. .. 15 | | | | | 5 | L3 |
| 6. |  | Write a C program to find the smallest and largest elements in an array. | | | | | 5 | L3 |
| 7. |  | Write a C program to read n numbers from the user and print the sum, mean, variance and standard deviation where m = mean = (1/n) , variance = (1/n) and s = | | | | | 10 | L3 |
| \*\*\*\*\*\*\*\*\*\*All the best \*\*\*\*\*\*\*\*\*\*\*\*\* | | | | | | | | |