INDIAN INSTITUTE OF INFORMATION TECHNOLOGY, SRI CITY

MID EXAMINATION – MONSOON 2025

C Programming

CSE:UG1(PC) **Date: 10-10-2025**

Duration: 90 Mins (04:30-06:30PM) **Max. Marks: 20**

Instructions: **Roll No:**_____

I. Answer the following

1	Which of the following is a character constant in C? A) "A" B) 'AB' C) A D) 'A'	[1M]
2	Which of the following correctly represents the sequence of steps involved in the execution of a C program? A. Linking → Compilation → Preprocessing → Execution B. Preprocessing → Compilation → Linking → Execution C. Compilation → Preprocessing → Linking → Execution D. Preprocessing → Linking → Compilation → Execution	[1M]
3	Which of the following operators has the highest precedence in C? A) * (multiplication) B) + (addition) C) ++ (increment) D) = (assignment)	[1M]
4	The binary representation of the decimal number is 125.325 _____	[1M]
5	You need to execute a loop at least once but the number of iterations is unknown. Which loop should you use? A) for loop B) while loop C) do-while loop D) goto statement	[1M]

II. Write the C code for the following questions

1	Write a C program to implement the deep learning model Y = XW + B, where X is the input matrix of size 2×3, W is the weight matrix of size 3×2, and B is the bias vector with values {{0.5, 1.0}{0.6,0.5}}. Compute the output matrix Y, then display its diagonal elements and transpose. **NOTE**: The input matrix and the weight matrix are to be entered from the keyboard.	[5M]
2	Write a C program to monitor a batsman's performance in a cricket match. The program should repeatedly take the runs scored per ball as input and compute the following in real time: Total Runs scored by the batsman Number of Balls Faced Strike Rate, calculated as (Total Runs / Balls Faced) × 100 **NOTE:** The program should: Use a **loop** to continue reading the runs scored on each ball until the user enters −1 (indicating the batsman is out or the innings is over) , consider all balls are fair, and the maximum runs scored per ball is 6. After each input, display the **current strike rate**. At the end, display a **final summary** showing the total runs, balls faced, final strike rate,	[5M]

III. **Find the output of the following. Each carries ONE mark**

S.No	Code Snippet	S.No	Code Snippet

1.	#include <stdio.h>
	int main() {
	int a = 17, b = 5;
	float c;
	c= (float)(a % b) / (int)(3.7);
	printf("Result = %f\n", c);
	return 0;
	}
		4	#include <stdio.h>
			int main() {
			int b,n=23;
			while(n > 0) {
			b = n % 2;
			n = n >> 1;
			printf("%d",b);}
			return 0; }

2.	#include <stdio.h>
	void main() {
	int a=3;
	switch(a) {
	case 1:
	printf("Exciting ");
	case 2: fun:
	printf("is fun ");
	break;
	case 3:
	printf("C ");
	case 4:
	printf("Programming ");
	goto fun;
	case 5:
	printf("is the ");
	default:
	printf("best ");
	}
	}
		5	#include <stdio.h>
			int main() {
			int n = 3;
			for(int i = 1; i <= n; i++) {
			for(int j = 1; j <= n; j++) {
			if(i % 2 == 0)
			if(j % 2 == 0)
			printf("X ");
			else
			printf("O ");
			else
			if(j % 2 == 0)
			printf("O ");
			else
			printf("X ");
			}
			printf("\n");
			}
			return 0;
			}

3.	#include <stdio.h>
	int main() {
	int n=2;
	
	int A[][2]={1,2,3,4}, b;
	
	for(int i=0;i<n;i++)
	{
	for(int j=0;j<n;j++)
	{b= A[i][j] + A[j][i];
	printf(" %d ",b);
	}
	printf("\n");
	}
	return 0;
	}
			The only way to learn a new programming language is by writing programs in it.
			-Dennis Ritchie