Roll No:

BTECH
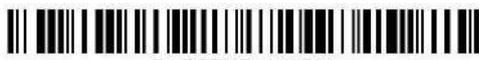**(SEM I) THEORY EXAMINATION 2021-22**
PROGRAMMING FOR PROBLEM SOLVING

Time: 3 Hours   *Total Marks: 100*
Note: **1.** Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1.   **Attempt *all* questions in brief.**   **2x10 = 20**

Qno.	Question	Marks	CO
a.	Draw the Memory hierarchy representation.	2	1
b.	Why is RAM called a Volatile memory?	2	1

c.	Write down the output of following code.
	``c
	#include <stdio.h>
	int main()
	{ int a=23;
	    ;
	    ;printf("%d",a);
	    ;
	    return 0;
	}
	``
		2	2

d.	Write down the output of following code.
	``c
	#include<stdio.h>
	int main()
	{ int a = 5;
	       a = 1, 2, 3;
	       printf("%d", a);
	       return 0;
	}
	``
		2	2

e.	Write the use of continue statement.	2	3
f.	What is the difference between entry control loop and exit control loop?	2	3
g.	How the size of the structure defined in c programming?	2	4
h.	Why is sorting process required?	2	4
i.	Write the advantages of using macro in C programming.	2	5
j.	Draw the basic structure of Linked List and explain its node.	2	5

SECTION B

2.   **Attempt any *three* of the following:**   **3x10 = 30**

Qno.	Question	Marks	CO
a.	Differentiate between Compiler and Interpreter. Draw the flow chart of swapping of two numbers.	10	1
b.	What do you mean by Operands? Discuss the operator precedence and associatively of all the operators.	10	2
c.	Write the advantage of recursive function? Write a program to print the Fibonacci series up to n number with recursive function.	10	3
d.	Write short note on array. Write the program for matrix multiplication of two matrix elements.	10	4
e.	Explain the concept of pointer in self-referential structure with proper example.	10	5

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SECTION C

3. **Attempt any *one* part of the following:** **1x10=10**

Qno.	Question	Marks	CO
a.	Differentiate between High level and Low-Level Programming. Draw and explain the diagram of Digital computer.	10	1
b.	Explain the different kind of storage classes used in C programming with proper syntax.	10	1

4. **Attempt any *one* part of the following:** **1x10=10**

Qno.	Question	Marks	CO
a.	Write the use of Break statement in switch case. Write a program to find out the greatest number out of three numbers.	10	2
b.	Explain different type of operators in C programming. Which concept makes the difference between operators when precedence is same?	10	2

5. **Attempt any *one* part of the following:** **1x10=10**

Qno.	Question	Marks	CO
a.	Write a program to print the pattern 1 2 3 4 5 6 7 8 9 10	10	3
b.	Write a Program to find the entered number is Armstrong number or not.	10	3

6. **Attempt any *one* part of the following:** **1x10=10**

Qno.	Question	Marks	CO
a.	Write a program two find out the odd place and even place numbers from the array elements and print the sum of these numbers respectively.	10	4
b.	Write the program for bubble sorting an explain it with example list 5, 7, 2, 1, 3, 6.	10	4

7. **Attempt any *one* part of the following:** **1x10=10**

Qno.	Question	Marks	CO
a.	Write the importance of free () function in Dynamic memory allocation. Explain dynamic memory allocation with the functions use in it.	10	5
b.	Difference between read and write mode in file handling. Write a program to copy the content from file to another file and count the characters.	10	5