PAPER ID-311619

Subject Code: BCS101

Roll No: | | | | | | | | | | | | | |

BTECH

(SEM I) THEORY EXAMINATION 2023-24

PROGRAMMING FOR PROBLEM SOLVING

TIME: 3HRS **M.MARKS: 70**

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. **2 x 7 = 14**

Q no.	Question	Marks	CO
a.	Define Syntax. Write the importance of Syntax in programming.	2	1
b.	Draw the Memory Hierarchy according to the Access time.	2	1
c.	Differentiate Between Operator and Operands.	2	2
d.	Define Conditional Operator with an example.	2	2

e.	Find the Output of Code:
	void main ()
	{
	int a, b;
	for (a = 6, b = 4; a <= 24; a = a + 6)
	{
	if (a % b == 0)
	break;
	}
	printf("%d" ,a);
	}
		2	3

f.	Write the importance of base value in recursive function.	2	4

g.	Predict the output of following program
	#include<stdio.h>
	int main()
	{
	int a = 12;
	void *ptr = (int *)&a;
	printf("%d", *ptr);
	getchar();
	return 0;
	}
		2	5

SECTION B

2. Attempt any *three* of the following: **7 x 3 = 21**

a.	Explain the Storage Classes used for the storage of the Data in C programming	7	1
b.	Discuss the Concept of Type Casting and Type Conversion with the Program.	7	2
c.	Write a program to print the pattern * * * * * * * * * * * * * * *	7	3

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d.	Write a Program to print the Fibonacci Series up to the user's choice with the process in which the function calls itself.	7	4
e.	Write the Short notes on (i) Linked list (ii) macros	7	5

SECTION C

3. Attempt any *one* part of the following: **7 x 1 = 7**

a.	Explain the Digital Computer with proper architecture.	7	1
b.	Define Algorithm. Write the Algorithm for the greatest of three numbers and Draw its flow chart.	7	1

4. Attempt any *one* part of the following: **7 x 1 = 7**

a.	Illustrate the Concept of Operator Precedence and Associativity with Example.	7	2
b.	Write a Program to discuss the use of break in Switch Statement.	7	2

5. Attempt any *one* part of the following: **7 x 1 = 7**

a.	Write a Program to check whether the entered number is prime or not.	7	3
b.	Write a Program to print the multiplication of two-dimensional matrices with m*n dimensions.	7	3

6. Attempt any *one* part of the following: **7 x 1 = 7**

a.	Write a Program to print the greatest number of an array using the array passing to function concept.	7	4
b.	Define Sorting. Explain the Bubble sort technique and write the Program to implement the bubble sort.	7	4

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

a.	Define file. Write the modes of file handling. Write a program in C to write multiple lines to a text file.	7	5
b.	Define calloc function. Write the Program to print the sum of elements initialized at the dynamic memory allocated by the user.	7	5