PAPER ID-311619

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