PAPER ID-421233

Subject Code: KCS201T

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

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

Time: 3 Hours *Total Marks: 100*

Note: Attempt all Sections. If you require any missing data, then choose suitably.

SECTION A

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

Qno	Questions	CO
(a)	Differentiate between void and int datatypes.	1
(b)	Draw the Pyramid structure of memory hierarchy.	1
(c)	Describe the syntax and working of Ternary operator.	2
(d)	Write advantages of Switch statement.	2

(e)	Find the output:
	#include <stdio.h>
	int main()
	{
	int a=100;
	printf("%d\n"+1, a);
	printf("Value is = %d"+3, a);
	return 0;
	}
		3

(f)	Define function and its type.	3

(g)	Find the output:
	#include<stdio.h>
	int main()
	{
	int arr[1]={10};
	printf("%d\n", 0[arr]);
	return 0;
	}
		4

(h)	Define time and space complexity. What is the complexity of bubble sort?	4

(i)	Find the output:
	#include<stdio.h>
	int main()
	{
	printf("%d", sizeof(void *));
	return 0;
	}
		5

(j)	What is the requirement of FREE() function in Dynamic memory allocation.	5

SECTION B

2. **Attempt any *three* of the following:** **10x3 = 30**

Qno	Questions	CO
(a)	Discuss the various symbols used in flow chart and Draw the flow chart to find the reverse of a number.	1
(b)	Illustrate the concept of type conversion and type casting with program.	2
(c)	Write a program to print the pattern 1 12 123 1234 123 12 1	3

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(d)	Explain bubble sort concept and write the program.	4
(c)	Discuss about the command line argument with example.	5

SECTION C

3. Attempt any *one* part of the following: 10x1 = 10

Qno	Questions	CO
(a)	Explain the different kind of storage classes in C programming.	1
(b)	Draw the architecture of Digital computer System and explain its all components.	1

4. Attempt any *one* part of the following: 10x1 = 10

Qno	Questions	CO
(a)	Define Operator and Operands. Discuss about the different type of operators used in programming.	2
(b)	What is use of break in switch case? Write a program to develop a calculator using case in character format.	2

5. Attempt any *one* part of the following: 10x1 = 10

Qno	Questions	CO
(a)	Write a Program for pattern ***** **** *** ** * ** *** **** *****	3
(b)	Write a program to print the Fibonacci series using recursive function. Take the limit from the user as input.	3

6. Attempt any *one* part of the following: 10x1 = 10

Qno	Questions	CO
(a)	Write a program for the selection sort and explain it with example.	4
(b)	Write a program to find the product of two 2-dimensional array and print the output in separate array.	4

7. Attempt any *one* part of the following: 10x1 = 10

Qno	Questions	CO
(a)	Write a program to allocate the memory with dynamic memory allocation concept. Take the input from the user and find the sum of all elements.	5
(b)	Discuss about the file handling concept and write a program to copy the content of one file to another and print the count of these coping elements.	5