Estd. in 2001

Laxdu Singh Charitable Trust's (Regd.)
THAKUR COLLEGE OF ENGINEERING & TECHNOLOGY
Autonomous College Affiliated to University of Mumbai
Approved by All India Council for Technical Education(AICTE) and Government of Maharashtra(GoM)
Website : www.tcetmumbai.in
Conferred Autonomous Status by University Grants Commission (UGC) for 10 years w.e.f. A.Y 2019-20
Amongst Top 200 Colleges in the Country, Ranked 191st in NIRF India Ranking 2019 in Engineering College category
• ISO 9001:2015 Certified • Programmes Accredited by National Board of Accreditation (NBA), New Delhi
• Institute Accredited by National Assessment and Accreditation Council (NAAC), Bangalore

IN-SEMESTER EXAMINATION (ISE-1) APRIL, 2023
FE/ FT (Semester-I) CBCGS-HME 2020
Programming for Problem Solving

Branch: COMP, AI&DS, E&CS, CS&E, CIVIL, IOT
Div.: A,B,C
Duration: 60 Minutes

Date: 05/04/2023
Timing: 10:00 PM to 11:00 PM
Maximum Marks: 20

Instructions –

1. All questions are compulsory.
2. Assume suitable data wherever necessary and state the assumptions made.
3. Diagrams / sketches should be given wherever necessary.
4. Use of logarithmic table, drawing instruments and non-programmable calculators is permitted.
5. Figures to the right indicate full marks.

Q.1		Solve any 5 Questions.	Marks	CO	Learning Level
	a.	Explain types of operating system.	02	1	U
	b.	Define flowchart with its symbols.	02	1	R
	c.	What is getchar() and putchar() function.	02	2	A
	d.	Explain levels of computer languages with examples.	02	1	U
	e.	Explain assignment & bitwise operators with example.	02	2	R
	f.	Explain Steps for Problem Solving.	02	1	R
	g.	Explain C preprocessor and Give some Mathematical Library Function.	02	2	U
Q.2.	a.	Explain Nested if-else structure with syntax and example.	05	3	R, A
		OR			
	b.	State Advantages and Disadvantages of Flowchart and Write C program to calculate gross salary of an employee using formula (gross_sal=basic_sal+hra+da).	05	1	AN
Q.3	a.	Write a C program to generate result and display grades if subject marks are given by user.	05	2	A
		OR			
	b.	Explain Type casting and types of Type Casting with examples.	05	2	A

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IN-SEMESTER EXAMINATION (ISE-II) MAY, 2023
FE/ FT (Semester-II) CBCGS-HME 2020
Programming for Problem Solving

Branch: COMP, AI&DS, E&CS, CS&E, CIVIL, IOT
Div.: A,B,C
Duration: 60 Minutes
Instructions –

Date: 23/05/2023
Timing: 10:00 AM to 11:00 AM
Maximum Marks: 20

1. All questions are compulsory.
2. Assume suitable data wherever necessary and state the assumptions made.
3. Diagrams / sketches should be given wherever necessary.
4. Use of logarithmic table, drawing instruments and non-programmable calculators is permitted.
5. Figures to the right indicate full marks.

Q.1		Solve any 5 Questions.	Marks	CO	Learning Level
	a.	What is the value of "a" in the following expression? int a=10+4.867;	02	5	A
	b.	Define structure with initialization.	02	6	R
	c.	Demonstrate following string handling functions with code snippet (i) strcat() (ii) strcmp().	02	5	A
	d.	Explain call by value in c language with proper example.	02	4	U
	e.	Write a program to calculate length of a string.	02	5	A
	f.	What is an array? How it is different from a variable. State types of array.	02	5	R
	g.	Explain Function declaration, Function call and Function Definition.	02	4	U
Q.2.	a.	Explain various storage classes with examples.	05	4	R,A
		OR			
	b.	Using structure, write a C program to read and display student information (Student_Rollno, Student_name, Student_emailId, Student_address).	05	6	R,A
Q.3	a.	Differentiate between recursion Vs iteration.	05	4	R
		OR			
	b.	Write a program to read and display 3x3 matrix in array.	05	5	R,A

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END SEMESTER EXAMINATION, JUNE 2023

F.E./F.T. SEMESTER II (CBCGS-HME 2020)

Branch:	COMP, AI&DS, E&CS, CSE, CIVIL, IOT	**Q.P. Code:**	E121G1003-1
Subject:	Programming for Problem Solving	**Duration:**	**2 hours**
Subject Code:	ESC103	**Max. Marks:**	**60**

Instructions: **1. All sections are compulsory**
2. Figures to the right indicate full marks.
3. Assume suitable data if necessary and state the assumptions clearly.

Section-I **Short Answer Questions (Answer any 05 questions out of 06)** **(10 Marks)**
(Fundamental, Core Types)

Q. No.		Marks	CO	RBT Level	PI

1	What is the output of following code :
	#include<stdio.h>
	#include<string.h>
	{
	int main()
	char str[20] = "ABCDEFGHIJK";
	int s = strlen(str);
	str[3] = '\0' ;
	s = strlen(str);
	printf(%d \n", s);
	return 0;
	}
		2	CO5	U,A	1.4.1, 2.2.4

2	State Various File Handling Function.	2	CO6	U	1.4.1
3	Explain Pre-Increment and Pre-Decrement with example	2	CO2	R, A	1.4.1, 2.2.4
4	Explain the difference between Break and Continue with example.	2	CO3	U	1.4.1
5	State one dimensional array with example.	2	CO5	R	1.4.1
6	Explain any Four string library functions.	2	CO5	U	1.4.1

Section-II **Descriptive Answer Questions(Answer any 04 out of 06)** **(20 Marks)**
(Descriptive, Comprehension Types)

1	Differentiate between Recursion and Iteration with example.	5	CO4	R,U	1.4.1
2	Develop C program for the following A. Check whether the user input number is prime or not. B. Print Pattern A A B A B C A B C D A B C D E	5	CO3	U,A	1.4.1, 2.2.4

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3	Design an algorithm draw a flowchart for swapping of two numbers using and without using third variable.	5	CO1	U	1.4.1
4	Explain for loop, while and do while loop with example.	5	CO3	R,U	1.4.1
5	Explain logical operators and bitwise operator with example.	5	CO3	U,A	1.4.1, 2.2.4
6	Develop a code to perform transpose of matrix.	5	CO5	A	2.2.4
Section-III	**Long Answer Question (Answer any 03 out of 05) (Application, Analytical, Evaluation, Design Type)**				**(30 Marks)**
1	Develop C program 1. To demonstrate the use of nested structure 2. Define a structure CRICKET which contains the following members Player_Name, Country_Name, Batting Average.	10	CO6	U,A	1.4.1, 2.2.4
2	Explain Storage Classess with example.	10	CO4	R,U	1.4.1
3	Write the menu driven program which depicts the working of LIBRARY, the menu option should be a. Add Book Information b. Display Book c. List all books of given Authors. d. List the title of the Specified Book. e. EXIT.	10	CO3	U,A	1.4.1, 2.2.4
4	Explain the type of array and develop c program to display addition of Two matrices.	10	CO5	R,A	1.4.1, 2.2.4
5	Explain the following A. Function Definition, Function Declaration, Function Call with Example. B. Categories of functions and explain any one category with example.	10	CO4	R,U	1.4.1, 2.2.4