University Institute of Engineering & Technology

(Recognised Under Section 2(f) and 12B of UGC)

Kurukshetra University, Kurukshetra

Roll No. - [redacted]

THEORY EXAMINATION – July 2022	
B.TECH – ECE/Mechanical	SEMESTER – II

TIME – 3 Hrs.

M.M. - 75

PAPER - ES-105

SUBJECT - Programming for Problem Solving

Note: All questions in Part-A and Part-B are compulsory. Attempt any four questions from Part-C.

PART-A (15 Marks)

Q. No. – 1 Answer the following questions.

(i)	Give the differences between break and exit() statements in C language.	2
(ii)	What is meant by pretest and posttest loop?	2
(iii)	What is indirection operator and what is its role in pointers?	2
(iv)	What is indirection operator and what is its role in pointers?	2
(v)	What is the difference between NULL, '\0' and 0?	2
(vi)	What is indirection operator and what is its role in pointers?	2
(vii)	What is the use of typedef? Explain with example.	3

PART-B (20 Marks)

	UNIT-I	
2	Convert the following: i). $(8DEA.2C)_{16} = (?)_8$ ii). $(6737.574)_8 = (?)_{10}$	 3 2
	UNIT-II	
3	i) Write a C program to find GCD of two numbers using ternary operator and for loop. ii) What are bitwise logical operators? Explain about bitwise logical operators with suitable programming example	3 2
	UNIT-III	
4	i. Write a program to find whether enter year is leap year or not. ii. Explain function prototype?	3 2
	UNIT-IV	
5	i. Explain structure within structure? How structure element are accessed. ii. Explain file opening modes.	3 2

PART-C (40 Marks)

	UNIT-I	
6	Solve the following: i. $(38)_9 - (378)_9$, ii) $(9CD7.BA)_{16} + (EDF5.4D)_{16}$ ii.Explain the primary and secondary memory devices in details.	4 6
7	Solve the following: i. $(AF3D.C2)_{16} = (?)_2$, $(203)_5 - (432)_5$ using 5' complement. ii. What do you understand by algorithm? Write an algorithm to find roots of a quadratic equation.	4 6
	UNIT-II	
8	i. Write a C program to generate and print the numbers between 100 and 200 which are divisible by 3 but not divisible by 4. ii. Describe the pretest, posttest, counter-controlled and condition-controlled loops with examples	5 5
9	i. Discuss about operator precedence in expression evaluation with a suitable example. ii. Write a C program to calculate m^n value using while and do while loop.	5 5
	UNIT-III	
10	i. Write a program to find second highest and smallest number in the given array. ii. Write a C program to accept an integer number and print the digits using words (for example 426 is printed as Four Two Six).	5 5
11	i. Write a program to enter some text through keyboard. Insert a dot (.) after every three words in the text. The first character after every dot should be converted to capital. ii. How user defined function can be created for passing the array, explain with suitable example.	5 5
	UNIT-IV	
12	i. How the record can be handled in C language. Explain with suitable example? ii.Write a C program to create a text file and read the text from the created file and count the number of vowels and consonants present in the file.	5 5
13	i. Write a program that changes every 5^{th} character of data file into uppercase. ii. Write a program to sort the array using call by reference.	5 5