Reg. No.															

Question Paper Code	13745

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2025

First Semester

Civil Engineering

(Common to All Branches)

20ESCS101 - PROBLEM SOLVING AND PROGRAMMING IN C

Regulations - 2020

Duration: 3 Hours Max. Marks: 100

PART - A (MCQ) (10 × 1 = 10 Marks)

Answer ALL Questions

		Marks	K – Level	CO
1.	When an algorithm is written in the form of a programming language, it becomes a (a) Flowchart (b) Program (c) Pseudo code (d) Syntax	1	K1	CO1
2.	The statement that tells the computer to get a value from an input device and store it in a memory location. (a) read (b) write (c) READ (d) WRITE	1	K1	CO1
3.	select a header file is predefined functionscanf(). (a) stdlib. h (b) ctype. h (c) stdio. h (d) stdarg. h	1	K1	CO2
4.	What is an example of iteration in C? (a) for (b) while (c) do-while (d) all of the mentioned	1	K1	CO2
5.	Which function appends not more than n characters. (a) strcat() (b) strcon() (c) strncat() (d) memcat()	1	K1	CO3
6.	Which keyword is used to make the array size optional in C language during array declaration? (a) auto (b) static (c) extern (d) register	1	K1	CO3
7.	Select a keyword that helps to the value obtained in the function is given back to main (a) return (b) static (c) new (d) volatile	1	K1	CO4
8.	What is the return type of the function with declaration: intfunc(char x, float v, double t); (a) char (b) int (c) float (d) double	1	K1	CO4
9.	Presence of code like “s.t.b = 10” indicates (a) Syntax Error (b) Structure (c) double data type (d) An ordinary variable name	1	K1	CO5
10.	EOF is an integer type defined in stdio. hand has a value of (a) 1 (b) 0 (c) NULL (d) – 1	1	K1	CO6

PART - B (12 × 2 = 24 Marks)

Answer ALL Questions

11.	List various types of programming paradigms.	2	K1	CO1
12.	Write pseudo code to print even numbers from 0 to 100.	2	K1	CO1
13.	Infer token in C program and List types of tokens.	2	K2	CO2
14.	Differentiate break and continue.	2	K2	CO2
15.	Illustrate Two-Dimensional array with an example.	2	K2	CO3
16.	List out the different Searching techniques in C program.	2	K1	CO3
17.	Differentiate call by value and call by reference.	2	K2	CO4
18.	Write the uses of Pointers.	2	K1	CO4
19.	Summarize Nested Structure in C program.	2	K2	CO5
20.	Define array of Structures with an example.	2	K1	CO5

21.	Distinguish between the functions scanf() and fscanf().		*2*	*K2*	*CO6*
22.	What is the use off seek()?		*2*	*K1*	*CO6*

PART - C (6 × 11 = 66 Marks)

Answer ALL Questions

23.	a)	(i)	Explain various phases in the Program Development Life Cycle with a neat diagram.	*6*	*K2*	*CO1*
		(ii)	Write short notes on types of linking and loading.	*5*	*K1*	*CO1*
			OR			
	b)	(i)	Define flowchart, Write the uses of various symbolsofflowchart.	*6*	*K2*	*CO1*
		(ii)	Discuss various models of computations.	*5*	*K2*	*CO1*
24.	a)		Explain in detail about decision making and branching in C with suitable examples.	*11*	*K2*	*CO2*
			OR			
	b)	(i)	Develop a C program to generate N Fibonacci numbers.	*6*	*K3*	*CO2*
		(ii)	Construct a C program to generate prime numbers between 1 and N.	*5*	*K3*	*CO2*
25.	a)		Explain in detail about various string handling functions available in C language and give an example program for any three string handling functions.	*11*	*K2*	*CO3*
			OR			
	b)	(i)	Develop a C program to sort the N numbers using selection sort.	*6*	*K3*	*CO3*
		(ii)	Construct a C program to find the scalar of a matrix.	*5*	*K3*	*CO3*
26.	a)		What is a function? Explain built in functions available in math header file with syntax and example.	*11*	*K2*	*CO4*
			OR			
	b)		Explain in detail about Pass by Value and Pass by Reference and write a program to swap two numbers using pass by value and pass by reference.	*11*	*K2*	*CO4*
27.	a)		Explain in detail about storage class specifiers with suitableprograms.	*11*	*K2*	*CO5*
			OR			
	b)		Explain the following:			
		(i)	Array of Structures with suitable example.	*6*	*K2*	*CO5*
		(ii)	Nested Structures with example program.	*5*	*K2*	*CO5*
28.	a)		Explain in detail about sequential and random access file operations with example	*11*	*K2*	*CO6*
			OR			
	b)		Construct a C program to copy content of one file to another file using file operations.	*11*	*K3*	*CO6*