

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)*

UG/PG DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL/MAY 2026

*Second Semester**Computer Science and Engineering*

CS3251 / UCST24201 - PROGRAMMING IN C

(Common to Information Technology)

*Regulations - 2021 & 2024**Duration : 3 Hrs**Maximum : 100 Marks***PART - A (ANSWER ALL QUESTIONS) (Marks 10*2=20)**

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
1.	What is the purpose of the #include directive in C programming?	L1	1	2
2.	Write a C program that displays the numbers 1 to 4 on the same line, using one printf statement with no conversion specifications.	L3	1	2
3.	How do you declare a 1D array in C?	L2	2	2
4.	What is the use of concatenate in C?	L2	2	2
5.	List the advantages of functions.	L1	3	2
6.	If m and n have been declared as integers and p1 and p2 as pointer to integers then identify the errors in any of the following statements: 1) p1=&m 2) p2=n 3) m=p2=p1 4) *p1=&n	L3	3	2
7.	What are the advantages of using structures in C programming?	L1	4	2
8.	Can a structure contain a pointer to itself? Justify your answer.	L4	4	2
9.	What is the purpose of the FILE pointer in C?	L2	5	2
10.	Can you perform both sequential and random access on the same file? How?	L2	5	2

PART - B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11.	a i Explain various types of operators in C language along with suitable examples.	L2	1	8
	ii Write a C program to check whether the given number is prime or not.	L3	1	8
	Or			
	b i Explain the process of declaring and initializing a variable in C programming. Provide examples to illustrate the usage of different data types.	L2	1	8
	ii Write a C program that takes a character as input and checks if it is a vowel (a, e, i, o, u) or a consonant using logical operators.	L3	1	8

12.	a	i	Explain the operations of string in detail.	L2	2	8
		ii	Twenty-five numbers are entered from the keyboard into an array. Write a C program to find out how many of them are positive, how many are negative, how many are even, and how many are odd.	L3	2	8
Or						
	b	i	Compare and contrast one dimensional array and two-dimensional arrays.	L2	2	8
		ii	Write a C program to (i) Reverse a given String (ii) Implement string copy operation strcpy(str1,str2), which copies string str1 to another string str2 without using the library function.	L3	2	8
13.	a	i	Explain the parameter passing mechanisms in C language with examples.	L2	3	8
		ii	Write a C program to implement binary search using recursion.	L3	3	8
	Or					
	b	i	Explain the various string functions in C language with examples.	L2	3	8
				L3	3	8
				ii Write a C program using pointers to exchange the values in two locations in the memory.		
14.	a	i	Explain the concept of nested structures (structure within a structure) with an example program.	L2	4	8
		ii	A school wants to keep track of attendance records for students. Each student has a name, roll number, and number of days present. Write a C program using an array of structures and display students with less than 75% attendance.	L3	4	8
	Or					
	b	i	Compare structures and unions with respect to memory efficiency and access time with an example program.	L2	4	8
				L3	4	8
				ii A hospital stores patient details dynamically (name, age, disease, doctor assigned). Write a C program using pointers to structures and dynamic memory allocation to store and retrieve patient records.		
15.	a	i	Explain the use of fopen(), fclose(), fprintf(), fscanf(), and fgets() functions in file handling with an example.	L2	5	8
		ii	A university maintains faculty details in a file. The file stores faculty ID, name, department, and salary. Write a C program that allows adding new faculty, searching by ID, and updating salary details.	L3	5	8
	Or					
	b	i	Compare and contrast text files and binary files with respect to storage, accessibility, and performance. Write programs to demonstrate both.	L2	5	8
				L3	5	8
				ii Write a C program to copy the contents of one file to another. While doing so replace all lowercase characters to their equivalent uppercase characters.		