

Sub Code: BIT-156

B,TECH(ME)  
Year: 1<sup>st</sup> Semester: II  
Minor Examination Session: 2024-25  
Programming in C

Max Marks: 20

Time: 2 Hrs.

Note: Attempt all Questions. All questions carry equal marks.

		Marks	CO	BL	PO	PI
<b>Q1. Attempt any two parts of the following.</b>						
(a)	Describe about the basic components of computers with neat block diagram	4		1,2		1,4,1
(b)	What is flowchart? Explain all the symbols with help of suitable example.	4		2		1,4,1
(c)	What do you mean by Algorithm? Explain the properties of algorithm with help of example.	4		2,3		1,4,1
<b>Q2. Attempt any two parts of the following.</b>		Marks				
(a)	What are data types? Write a C program to find the squares of N numbers using do-while.	3		2,3		1,4,1
(b)	What are operators? Write down the difference between the associativity and precedence of operators.	3		2,4		1,4,1
(c)	What is difference between while and do-while.	3		2,3		1,4,1
<b>Q3. Attempt any two parts of the following.</b>		Marks				
(a)	What is the role of Switch statement in C programming language? Explain with the help of example.	3		2,3		1,4,1
(b)	Write a program that takes an integer keyed in from the terminal and extracts and display each digit of the integer in English.	3		2,3		1,4,1
(c)	Explain briefly with help of example. i. For loop ii. If-else iii. break	3		2,4		1,4,1

**B. Tech (MECHANICAL)**  
**Year: 1<sup>st</sup> Semester: II**  
**Major Examination: 2024-25**  
**Programming in C**

Time Hrs: 3 Hrs.

Max Marks:50

Note: Attempt ALL questions. ALL questions carry equal marks.

Q1.	Attempt any Five parts of the following.	Marks	CO	BL	PO	PI Code
a) ✓	Describe about the basic components of computers with a neat block diagram.	2	CO1	L2	1,2	1.4.1
b)	Write a C program to find the squares of N numbers using do-while.	2	CO2	L2	1,2	1.4.1
c)	What is the role of switch statement in C programming language? Explain with example.	2	CO2	L1	1,2	1.4.1
d) ✓	What is flowchart? Explain all the symbols with help of suitable example	2	CO3	L2	1,3	1.4.1
e) ✓	What is the difference between break and continue in C?	2	CO2	L3	2,3	1.4.1
f) ✓	Differentiate between high level and machine level language	2	CO3	L3	2,3	1.4.1
g)	What do you mean by Algorithm? Explain the properties of algorithm.	2	CO3	L3	2,3	1.4.1
<b>Q2.</b>	<b>Attempt any Two parts of the following.</b>					
a)	What is a token? What are different types of tokens available in C language? Explain.	5	CO1	L2	1,2	1.3.1
b) ✓	(i) What is an array? How a single dimension and two dimension arrays are declared and initialized? (ii) Write a C program to add two matrices entered by the user.	5	CO1	L3	1,2	1.4.1
c) ✓	Explain string manipulation library functions with their syntaxes. Write a C program to check whether a string is palindrome or not.	5	CO1	L4	2,3	1.3.1
<b>Q3.</b>	<b>Attempt any Two parts of the following.</b>					
a)	(i) What is recursion? Write a recursive program to find factorial of a number. (ii) Distinguish between call by value and call by reference with example. Write a program in C to generate Fibonacci series .	5	CO2	L2	3,4	1.3.1
b)	(i) What is function? Give the structure of the functions and explain about the arguments and parameters. Explain the difference between parameter passing mechanisms with example. Which is more efficient and why? (ii) Write a C program to check and print the prime Number 1 to 100.	5	CO2	L3	1,2	1.3.1
c) ✓	Discuss the syntax and usage of following functions related to dynamic memory allocation:	5	CO2	L3	2,3	1.4.1

	i. malloc()      iii. realloc() ii. calloc()      iv. free()					
<b>Q4.</b>	<b>Attempt any Two parts of the following.</b>					
a)	What is pointer? Explain the process of declaring and initializing pointer with example. Write a program in c to demonstrate the use of address of and value at address operator.	5	CO3	L2	1,4	1.4.1
b)	List out various file operations and modes in C. Write a program to copy the content from one file to another file.	5	CO3	L4	1,2	1.4.1
c)	Describe command line arguments with example in C program.	5	CO3	L3	2,3	1.4.1
<b>Q5.</b>	<b>Attempt any Two parts of the following.</b>					
a)	Define stack, queue and linked list with example. Write a C program that implements a simple queue using a structure.	5	CO4	L2	1,2	1.4.1
b)	Define structure and write the general format for declaring and accessing members. Create a structure called "student" with member name , age and total marks. Write a C program to input data for n students, display their information and find the average of total marks.	5	CO4	L3	1,4	1.4.1
c)	What are preprocessors? How many types of preprocessors? Explain each with help of example. Write macro definition with arguments for calculation of area and perimeter of a circle and rectangle. Store these macro definitions in a file called "areaperi.h".	5	CO4	L4	2,3	1.4.1