



Kot Bhalwal, Jammu



Model Institute of Engineering
& Technology (Autonomous)
Lab Handout

LABORATORY HANDOUT

C PROGRAMMING LAB (BCAMJ-108)

BCA -1st SEMESTER

ACADEMIC YEAR (2024-25)

Ms. Annu Sonania

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Department of Computer Science and Engineering



Department of Computer Science and Engineering

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KotBhalwal, Jammu - 181122

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Dr. Arun K. Gupta Teaching-Learning Centre

Version 1.1



Please Do Not Print Unless Necessary



Course Code	Course Name	Course Type	Cd	L	T	P	Marks		
							Sessional	Final Exam	Total
BCAMJ 108	C programming lab	ESC	2	0	0	4	50	-	50

COURSE OUTCOMES

At the end of the course the student will be able to:	
CO1	Demonstrate an understanding of the overall syntax and semantics of C programs.
CO2	Break problems into smaller solvable problem statements and integrate to create a complete solution.
CO3	Develop readable, modular and reusable C programs using built-in and user-defined functions.
CO4	Debug and test programs to determine that the program performs as expected.
CO5	Develop programs that perform operations using derived data types and files.

LIST OF EXPERIMENTS

S.No.	Title
1	a. Familiarization with Lab Environment
	b. Hello World
2	a. Arithmetic operations using addition, subtraction, multiplication and remainder operator
	b. Area and Perimeter of Circle, Square and Rectangle
	c. Find Euclidean distance between two points in a plane
3	a. Number is even or odd
	b. Check whether the alphabet is a vowel or consonant.
	c. Area of Circle, Square and Rectangle based on user choice
4	a. Factorial using for loop
	b. Fibonacci sequence using for loop
	c. Maximum of n numbers using for loop



5	a. Check if a number is prime or not using while loop
	b. Calculate sum of digits of a number using while loop
	c. Check no. is armstrong or not using while loop
6	a. To find max element and index in array
	b. Sorting an array using insertion sort
	c. Searching an element in an array using linear search
7	a. To read and print elements in two-dimensional array
	b. Program to perform matrix multiplication
	c. To demonstrate the use of various string operation
8	a. Write a C program to create Simple Calculator using switch case and function for every operation
	b. Fibonacci sequence using recursion
	c. Factorial using recursion
9	a. Swapping of two numbers using call by value and call by reference
10	a. To demonstrate the use of malloc (), calloc () and free () functions
11	a. To store the information of student marks using structures and find total marks of individual student
	b. To store information of a student using union
	c. Array of structures for student marks for each student and passing it to function for various operation
12	a. Program to read and write in a file
	b. Program for reading and writing the student marks data to files

LAB REPORT INSTRUCTIONS

- Provide specific title of the lab experiment.
- Theory: Provide a concise abstract (typically 100-200 words) that summarizes the purpose, methods, key findings, and significance of the experiment.
- Materials/ Equipment: List all materials, components, and equipment used in the experiment. Include specifications when applicable.



- Software/Simulation Tools:
- Experimental Procedure: Describe the step-by-step procedure for conducting the experiment. Be detailed and clear in your instructions. Include diagrams or schematics to illustrate the setup, connections, and component placement. Explain any variations or adjustments made to the standard procedure.
- Observation & Calculations/Analysis: Detail the data you collected during the experiment. Include descriptions of measurements and any calculations made. Use tables, charts, or graphs to present data clearly. Discuss any trends, patterns, or significant observations. Interpret the data in the context of the experiment's objectives. Ensure that all figures, tables, and equations are correctly labeled.
- Results: Summarize the key findings of the experiment. Present results in a clear and organized manner using tables and graphs. Include units of measurement and labels for data points.
- Conclusion: Provide a concise summary of the experiment's key points and outcomes.

GRADING AND ASSESSMENT

- **Continuous Evaluation:** 30 marks
- **Final Demo & Viva:** 10 marks
- **Attendance:** 10 marks
- **Lab Overall Marks:** 50 marks

COURSE POLICIES

- **Attendance:** Minimum 75% attendance is mandatory to appear in the final examination of the course.
- **Late Submissions:** Manuals and projects must be submitted by the specified timelines.

FACULTY INFORMATION

- **Office Hours**
Monday (12:05 PM - 12:55 PM)
Friday (12:05 PM - 12:55 PM)

- **Contact Information**

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RUBRICS FOR LAB CONTINUOUS EVALUATION

Parameters	Performance			Marks
	Low	Medium	High	
Execution of the Experiment	Student was not able to setup and conduct the Experiment completely	Student was able to setup and conduct the experiment but measurement/results/observations were not correct	Students was able to set and conduct the experiment and the measurement/results/observations were not correct	10
	0-2 Marks	3-6 Marks	7-10 Marks	
Record	Student was not able to describe the detailed procedure and could not record the measurement.	Student was able to describe the detailed procedure partially or with some inaccuracy.	Student was able to describe the detailed procedure accurately and record all measurements correctly.	10
	0-2 Marks	3-6 Marks	7-10 Marks	
Viva Voice	Students could not demonstrate sufficient knowledge of foundation, functional or applied aspects related to the experiment during viva.	Students demonstrated sufficient knowledge of foundation, functional or applied aspects related to the experiment during viva.	Students demonstrate strong knowledge of foundation, functional or applied aspects related to the experiment during viva	10
	0-2 Marks	3-6 Marks	7-10 Marks	
Total Marks				30