



**Graphic Era**  
**HILL UNIVERSITY**

Established by an Act of the State Legislature of Uttarakhand (Adhiniyam Sankhya 12 of 2011)

**DEHRADUN CAMPUS**

## **PRACTICAL FILE / TERM WORK**

**CBNST LAB**

**PMA-502**

**B.Tech CSE**

**V**

**2023-24**

**DEPARTMENT OF COMPUTER SCIENCE AND  
ENGINEERING**

**GRAPHIC ERA HILL UNIVERSITY,  
DEHRADUN**

**SUBMITTED TO**

Mr. PURUSHOTTAM DAS

ASST. PROFESSOR

DEPARTMENT OF COMPUTER

SCIENCE & ENGG.

**SUBMITTED BY**

NAME:

Examination Roll No.:

Course / Sem:

COLLEGE ROLL NO. \_\_\_\_\_

EXAMINATION ROLL NO. \_\_\_\_\_



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THIS IS TO CERTIFY THAT Mr. / Ms. \_\_\_\_\_  
HAS SATISFACTORILY COMPLETED ALL THE EXPERIMENTS IN THE LABORATORY OF THIS  
COLLEGE. THE COURSE OF THE EXPERIMENTS / TERM WORK  
\_\_\_\_\_ IN PARTIAL FULLFILLMENT OF THE  
REQUIREMENT IN \_\_\_\_\_ SEMESTER OF B.TECH (CSE) / M.TECH( ) / BCA / MCA /  
BBA / MBA DEGREE COURSE PRESCRIBED BY GRAPHIC ERA HILL UNIVERSITY, DEHRADUN  
DURING THE YEAR \_\_\_\_\_ - \_\_\_\_\_

CONCERNED FACULTY

HEAD OF DEPARTMENT

NAME OF EXAMINER:

SIGNATURE OF EXAMINER:



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## **Department of Computer Science & Application**

### **Lab Details**

**Name of the Lab:** - CBNST Lab

**Lab Code:** - PMA-502

**Subject Credit:** - 2

**Course:** - B.Tech

**Branch:** - CSE

**Semester:** - V

**Section:** - D

**Number of students enrolled:** -

**Name of the Faculty:** - Mr. Purushottam Das

**Name of Lab Instructor:** -

**Lab Number:-**

### **Lab Time Table**

<b>Lab Session</b>	<b>Day</b>	<b>Lecture Number</b>	<b>Timing</b>
1	Tuesday	7 - 8	4:10 – 6:00 PM



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## **Department of Computer Science & Application**

### **List of Practical's**

**Subject Code: PMA-502**

**Subject Name: CBNST Lab**

**Course : B.Tech CSE**

**Branch & Sem:-V D**

1. Write a program in C to find absolute, relative and percentage error for round-off and truncation cases.
2. Write a program in C to find the roots of any polynomial / transcendental equation using bisection method correct up to three decimal places.
3. Write a program in C to find the solution of any transcendental equation using Regula-Falsi method correct up to three decimal places.
4. Write a program in C to find the solution of any non-polynomial equation using Newton-Raphson method correct up to four decimal places.
5. Write a program in C to find the roots of any non-polynomial equation using Iteration method correct up to four decimal places.
6. Write a program in C to solve the system of linear equations using Gauss Elimination method.
7. Write a program in C to solve the homogeneous system of linear equations using Gauss Jordan method.
8. Write a program in C to solve given system of linear equations using Gauss-Siedal iterative method.
9. Write a program in C to interpolate using Newton's forward difference formula for the stated values.
10. Write a program in C to implement Newton's backward difference formula.
11. Write a program in C to interpolate using Gauss forward Interpolation formula for given values.
12. Write a program in C to implement Lagrange's Interpolation formula for unequal intervals.

13. Write a program in C to integrate given values using Trapezoidal rule.
14. Write a program in C to integrate using Simpson's  $1/3$  rule for the stated values.
15. Write a program in C to implement Simpson's  $3/8$  rule.
16. Write a C Program to implement Euler's method.
17. Write a C Program to implement Runge-Kutta's Method.
18. Write a C Program to implement curve fitting for a straight line.
19. Write a C Program to implement parabolic curve fitting.
20. Write a C Program to implement regression lines.

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**  
**STUDENT LAB REPORT SHEET**  
**CBNST LAB (PMA-502)**

Name of Student ..... Mo. No.....

Address Permanent .....

Father's Name ..... Mo No .....

Mother's Name ..... Mo No.....

Section .....Branch.....Semester..... Class Roll No.....

Local Address.....Email.....Grade A B C

Marks 5 3 1

S. No.	Name of the Experiment	D.O.P.	Date of Submission	Grade (Viva)	Grade (Report File)	Total Marks (out of 10)	Student's Signature	Teacher's Signature
1	Write a program in C to find absolute, relative and percentage error for round-off and truncation cases.							
2	Write a program in C to find the roots of any polynomial / transcendental equation using bisection method correct up to three decimal places.							
3	Write a program in C to find the solution of any transcendental equation using Regula-Falsi method correct up to three decimal places.							
4	Write a program in C to find the solution of any non-polynomial equation using Newton-Raphson method correct up to four decimal places.							
5	Write a program in C to find the roots of any non-polynomial equation							

	using Iteration method correct up to four decimal places.							
<b>6</b>	Write a program in C to solve the system of linear equations using Gauss Elimination method.							
<b>7</b>	Write a program in C to solve the homogeneous system of linear equations using Gauss Jordan method.							
<b>8</b>	Write a program in C to solve given system of linear equations using Gauss-Siedal iterative method.							
<b>9</b>	Write a program in C to interpolate using Newton's forward difference formula for the stated values.							
<b>10</b>	Write a program in C to implement Newton's backward difference formula.							
<b>11</b>	Write a program in C to interpolate using Gauss forward Interpolation formula for given values.							
<b>12</b>	Write a program in C to implement Lagrange's Interpolation formula for unequal intervals.							
<b>13</b>	Write a program in C to integrate given values using Trapezoidal rule.							
<b>14</b>	Write a program in C to integrate using Simpson's 1/3 rule for the stated values.							
<b>15</b>	Write a program in C to implement Simpson's 3/8							

	rule.							
<b>16</b>	Write a C Program to implement Euler's method.							
<b>17</b>	Write a C Program to implement Runge-Kutta's Method.							
<b>18</b>	Write a C Program to implement curve fitting for a straight line.							
<b>19</b>	Write a C Program to implement parabolic curve fitting.							
<b>20</b>	Write a C Program to implement regression lines.							

**Total No of Practical allotted: .....**

**Total No of Practical completed: .....**

**Percentage Attendance of Practical: .....**



# ACKNOWLEDGEMENT

Name of Student

**DEHRADUN CAMPUS**[illegible]

# INDEX

[illegible]

**PROGRAM NO.1**

**NAME:**  
**COURSE:**  
**BRANCH/SEMESTER:**  
**ROLL NO:**  
**DATE:**

**1. OBJECTIVE:**

**2. METHOD:**

**3. PROGRAM:**

**4. OUTPUT:**