BML MUNJAL UNIVERSITY
FROM HERE TO THE WORLD

SCHOOL OF ENGINEERING & TECHNOLOGY

COURSE FILE

Program: Electronics and Computer Engineering
Course Code: ABC1404
Course Title: Seminar/Case Studies
Module Semester: 5th
Session: 2024-25

Index

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1.   Course Details

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- **Module/Semester: 5th**
- Session: 2024-25

2. Vision, Mission of the University

Vision

BML Munjal University seeks to nurture ethical leaders who are skilled, knowledgeable and have the life skills required for leading their organizations to success. The university shall seek the advancement and dissemination of practically oriented knowledge benchmarked with the best global standards.

Mission

BML Munjal University aims to be a leading university for the quality and impact of its teaching, research and linkages with major stakeholders. The focus of the university is to find creative solutions to problems through application of knowledge. The university aims to create a talented community of students and faculty who excel in teaching, learning and research, in a creative and stimulating environment. The university will collaborate with other institutions for development of science, technology and arts in the global context.

3. Graduate Attributes

- Acquire and apply practical understanding of discipline knowledge.

- Demonstrate a sense of ethics and display excellence in both personal and professional life.

- Exhibit problem solving, critical thinking skills and investigative capability to address real world problems.

- Manifest leadership qualities and work effectively in teams across globally diverse environments.

- Be a lifelong learner with an entrepreneurial mindset to innovate in the constantly changing global scenario.

- Possess a strong sense of inquiry and design innovative solutions for positive societal impact.

- Be effective communicators and possess an empathetic outlook.

4. Vision, Mission of the School

Vision of School:

To be amongst the leading engineering schools of the country recognized globally for excellence in teaching and research with focus on experiential learning, innovation and entrepreneurship.

Mission of School:

* Providing high-quality learning experience to our students, preparing them to be global leaders, and contributing to the development of society through research, innovation, and entrepreneurship.
* Creating an inclusive and diverse learning environment that fosters creativity, critical thinking, and ethical values.

* Collaborating with industry, government, and other institutions to address complex societal challenges and promote sustainable development.

5. PEOs and POs of the Program

Program Educational Objectives (PEO):

PEO 1 – Domain knowledge:

Exhibit strong knowledge of the management discipline in a global context.

PEO 2 – Informed Decision Making:

Demonstrate higher order critical thinking and problem-solving capabilities with an entrepreneurial mindset.

PEO 3 – Managerial Skills:

Be effective managers with good communication skills, high levels of emotional intelligence, and innovative thinking.

PEO 4 – Exhibit Leadership:

Possess ethical leadership qualities for effective management decisions.

Program Outcomes (PO):

PO 1 –Apply Business knowledge:

Gain in depth understanding of various management disciplines and apply the concepts for business decision making.

PO 2 –Diverse Perspective:

Integrate diversity and multidisciplinary perspectives in business decisions making.

PO 3 –Cognitive Skills:

Utilize quantitative and qualitative methods to investigate and solve complex business problems by planning and conducting research for Investigation with critical thinking and problem-solving skills.

PO 4 –Innovation and Entrepreneurship:

Apply relevant and creative frameworks across multiple disciplines to create innovative and entrepreneurial solutions.

PO5 – Lead empathetic and ethical leadership:

Demonstrate social responsibility, teamwork, life skills to lead organizations ethically.

PO6 – Effective Communication for Impact:

Communicate effectively across all levels and society at large.

6. Course Description and its objectives

The main objective of this course is to introduce students to different data structures and illustrate their effective use in solving technical and logical problems. The course comprehensively explores different problem-solving techniques and skills. Proficiency in problem-solving skills is a fundamental expectation for any competent developer, as these concepts are commonly assessed by reputable companies during the screening process for software developer positions. The primary emphasis will be on achieving a deep understanding of data structures, their implementation, practical applications through problem-solving scenarios, exploring various programming paradigms, algorithm analysis, and the practical application of different data structures and algorithms. This course explores the fundamental workings of algorithms and data structures, which lie at its core essence.

7. Course Outcomes and CO-PO Mapping

Course Outcomes:

CO1:

CO2:

CO3:

CO/PO Mapping:

Course Outcomes (CO)	PO1	PO2	PO3	PO4	PO5	PO6
CO1			2	2	2	
CO2						
CO3		3	3	2		

8. Course Syllabus

Sr. No.	Content	CO	Sessions
1	Linear Search, Maximum in an Array, Sorting(Selection, Bubble and Insertion), Binary search, Kadane's Algo-O(N), Merge two sorted arrays, Rotate Array anti clock wise by k times, Unique Number-1, and tell about bitwise operators, Basics of strings, String methods, String builder, Mutable and Immutable concepts, 2D Arrays: Wave Print, Spiral Print, and Transpose	1	1
2	Recursion: Factorial, Fibonacci, isArraySorted, SumofArray, Print Numbers â€" 1) Increasing Order 2) Decreasing Order, MergeSort, Subsequence, Rat in Maze, N_Stairs, Subset Sum	2	1
3	Stack: stack implementation, Queue implementation, Linkedlist implementation(Add and Delete), Mid (Cycle detection hints), Reverse LinkedList, Merge two Sorted LinkedList, Intersection of two LinkedList, Binary Tree implementation and traversal of binary tree(PreOrder, InOrder and PostOrder), Diameter-O(N^2) and O(N) height, count number of node, Level-Order, Create Tree using Pre and Inorder, Create Tree using level-order, Binary Search Tree implementation, Addition and Deletion	2	1
4	BST to LinkedList, Balanced binary Tree, Valid BST, priority queue Collections, Kth Smallest, Meeting Room-2, Merge k Sorted List, Map and Set Collections (HashMap TreeMap and LinkedHashMap), SubArray using Map related Question	3	1
5	Dynamic Programming: Fib, min Steps to one, coin Changes, LCS, LIS, knapsack, Edit Distance, Graph basic, BFS, DFS, Dijkstra, MST(Prims), bipartite	1	1

9. Learning Resources

Text Books:
- ✓ Cracking the Coding Interview author(Gayle Laakmann McDowell)
- ✓ Coding Interview Questions author(Narasimha Karumanchi)

Reference Links:
- https://google.com/
- NPTEL Data Structures And Algorithms, IIT Delhi

10. Weekly Timetable

Day	Start Time	End Time	Duration (hrs)
Monday	9:00 AM	10:00 AM	1
Monday	9:00 AM	10:00 AM	1

Weekly Overview

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
9:00 AM - 10:00 AM ABC1404 (1hr) **9:00 AM - 10:00 AM** ABC1404 (1hr)	*No class*	*No class*	*No class*	*No class*	*No class*	*No class*

11. Registered Students List

Sr. No.	Roll No	Student Name	Unique Id
1	220C2030001	Aditya Goel	240334
2	220C2030002	Anisha Chhanpadia	240335
3	220C2030003	Dhruv Singla	240336
4	220C2030004	Dorjee Phinjo Sona	240337
5	220C2030005	EENA CHAUDHARY	240338
6	220C2030006	Eshaan Chandra	240339
7	220C2030007	Hardik Rustagi	240340
8	220C2030008	Harsh Gupta	240341
9	220C2030009	Jiya Gera	240342
10	220C2030010	Keshav Gupta	240343
11	220C2030011	Luvisha Verma	240345
12	220C2030012	Mehal Raghav	240346
13	220C2030013	Neha Raju Shinde	240347
14	220C2030014	Priya Chadda	240348
15	220C2030015	Purnendu Vashishtha	240349
16	220C2030016	Sagar Bista	240350
17	220C2030017	Shoryaveer Singh	240351
18	220C2030018	Yash Garg	240352
19	220C2030019	Sanchi Narang	240870
20	220C2030020	Cheshtha Narang	240871
21	220C2030021	Nishtha Arora	240909
22	220C2030022	Astha Jaiswal	240794
23	220C2030023	Kshitij Khera	240333
24	220C2030024	Hitansh Goel	240943
25	220C2030025	Sneha Singh	240963

19. Attendance Report

Sr. No.	Roll No	Student Name	Attendance Out of(100)
1	220C2030001	Aditya Goel	75.00
2	220C2030002	Anisha Chhanpadia	85.19
3	220C2030003	Dhruv Singla	71.43
4	220C2030004	Dorjee Phinjo Sona	89.29
5	220C2030005	EENA CHAUDHARY	100.00
6	220C2030006	Eshaan Chandra	85.71
7	220C2030007	Hardik Rustagi	78.57
8	220C2030008	Harsh Gupta	82.14
9	220C2030009	Jiya Gera	92.86
10	220C2030010	Keshav Gupta	75.00
11	220C2030011	Luvisha Verma	92.86
12	220C2030012	Mehal Raghav	81.48
13	220C2030013	Neha Raju Shinde	89.29
14	220C2030014	Priya Chadda	85.19
15	220C2030015	Purnendu Vashishtha	96.43
16	220C2030016	Sagar Bista	96.43
17	220C2030017	Shoryaveer Singh	60.71
18	220C2030018	Yash Garg	71.43
19	220C2030019	Sanchi Narang	96.43
20	220C2030020	Cheshtha Narang	96.43
21	220C2030021	Nishtha Arora	100.00
22	220C2030022	Astha Jaiswal	42.86
23	220C2030023	Kshitij Khera	78.57
24	220C2030024	Hitansh Goel	82.14
25	220C2030025	Sneha Singh	82.14

## 18, 20 Detail of Marks in all components up to the End Semester

Sr. No.	Roll No	Student Name	Assignment Out	End term examination Out	Group Presentation Out	Individual Class Participation Out	Mid Term Exam Out	Role Play Out	Total Marks(100.0) Out
1	220C2030001	Aditya Goel	8.5	0.0	9.0	0.0	6.5	8.0	32.00
2	220C2030002	Anisha Chhanpadia	8.5	21.0	9.0	9.0	10.5	8.0	66.00
3	220C2030003	Dhruv Singla	8.5	24.0	9.0	1.0	6.0	8.0	56.50
4	220C2030004	Dorjee Phinjo Sona	8.5	18.5	9.0	7.0	3.0	8.0	54.00
5	220C2030005	EENA CHAUDHARY	9.0	29.0	9.0	8.5	8.0	8.0	71.50
6	220C2030006	Eshaan Chandra	7.5	26.0	8.5	6.0	8.0	7.5	63.50
7	220C2030007	Hardik Rustagi	9.0	21.0	8.5	7.5	4.5	7.5	58.00
8	220C2030008	Harsh Gupta	8.0	20.0	7.5	0.0	7.5	8.0	51.00
9	220C2030009	Jiya Gera	8.5	26.5	8.5	7.5	8.5	8.0	67.50
10	220C2030010	Keshav Gupta	7.5	5.0	8.5	0.0	4.0	8.0	33.00
11	220C2030011	Luvisha Verma	8.0	20.0	7.5	9.5	7.5	7.0	59.50
12	220C2030012	Mehal Raghav	8.0	30.0	7.5	3.0	4.0	7.0	59.50
13	220C2030013	Neha Raju Shinde	8.5	20.5	8.5	6.0	6.0	7.5	57.00
14	220C2030014	Priya Chadda	9.0	34.0	8.5	6.5	16.0	8.0	82.00
15	220C2030015	Purnendu Vashishtha	8.0	11.5	8.0	6.5	8.0	7.0	49.00
16	220C2030016	Sagar Bista	9.5	23.0	8.0	7.5	12.0	7.0	67.00
17	220C2030017	Shoryaveer Singh	8.0	21.5	0.0	1.0	2.5	7.0	40.00
18	220C2030018	Yash Garg	8.0	5.0	7.0	0.0	2.5	8.0	30.50
19	220C2030019	Sanchi Narang	9.5	35.0	8.0	9.5	17.0	8.0	87.00
20	220C2030020	Cheshtha Narang	7.5	33.0	9.0	9.5	8.0	8.0	75.00
21	220C2030021	Nishtha Arora	8.5	18.5	7.5	8.5	17.5	8.0	68.50
22	220C2030022	Astha Jaiswal	0.0	0.0	0.0	0.0	0.0	0.0	0.00
23	220C2030023	Kshitij Khera	9.5	15.5	7.5	4.5	8.5	7.0	52.50
24	220C2030024	Hitansh Goel	8.0	11.5	7.5	4.0	3.5	8.0	42.50
25	220C2030025	Sneha Singh	8.0	26.5	8.0	5.5	9.5	8.0	65.50

12. CO Attainment Analysis

CO Attainment Summary

urse Outcomes	CO1	CO2	CO3
eights	55.00%	21.00%	24.00%
. of students scored greater than 3	2	4	4
rcentage of students scored greater than 3	8.00%	16.00%	16.00%
tainment Level	1	1	1
erall Course Attainment		1.0000	

Percentage of Students Scored ≥ 3

CO3 — 16.00%

CO2 — 16.00%

CO1 — 8.00%

Percentage (%)
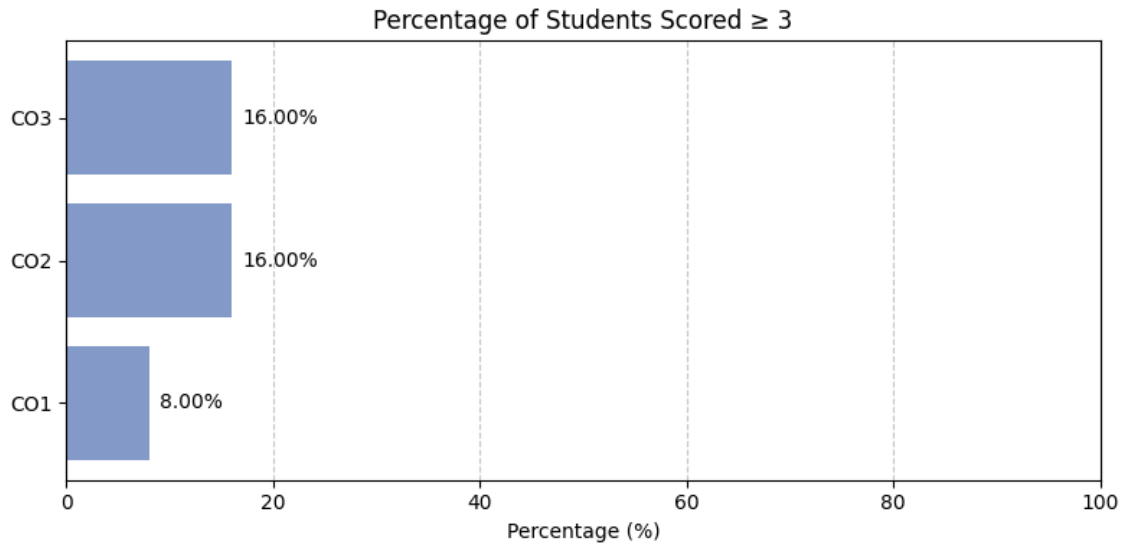
Program Attainment

Program Outcomes	PO1	PO2	PO3	PO4	PO5	PO6
Program Attainment	0.00	1.32	1.26	1.24	1.16	0.00
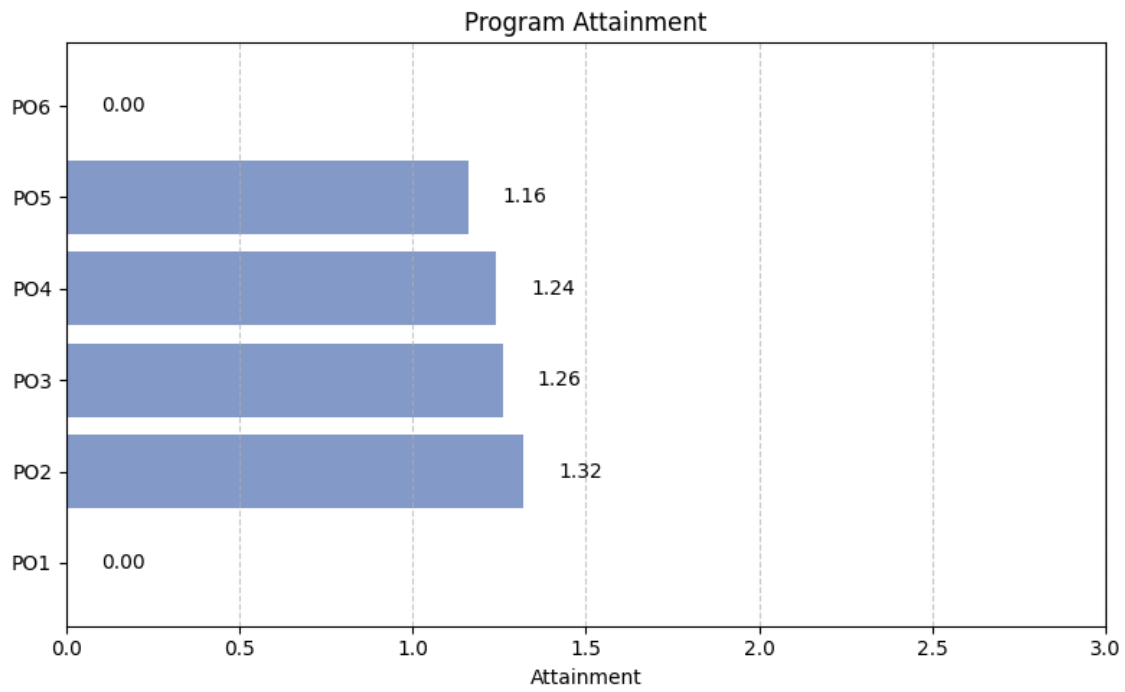
Student-wise CO Achievement

NAME	CO1 Score	CO2 Score	CO3 Score
Aditya Goel	1	1	1
Anisha Chhanpadia	1	1	1
Dhruv Singla	1	1	1
Dorjee Phinjo Sona	1	1	1
EENA CHAUDHARY	1	3	3
Eshaan Chandra	1	1	1
Hardik Rustagi	1	1	1
Harsh Gupta	1	1	1
Jiya Gera	1	1	1
Keshav Gupta	1	1	1
Luvisha Verma	1	1	1
Mehal Raghav	1	1	1
Neha Raju Shinde	1	1	1
Priya Chadda	3	3	3
Purnendu Vashishtha	1	1	1
Sagar Bista	1	1	1
Shoryaveer Singh	1	1	1
Yash Garg	1	1	1
Sanchi Narang	3	3	3
Cheshtha Narang	1	3	3
Nishtha Arora	1	1	1
Astha Jaiswal	1	1	1
Kshitij Khera	1	1	1
Hitansh Goel	1	1	1
Sneha Singh	1	1	1
Average	**1.16**	**1.32**	**1.32**
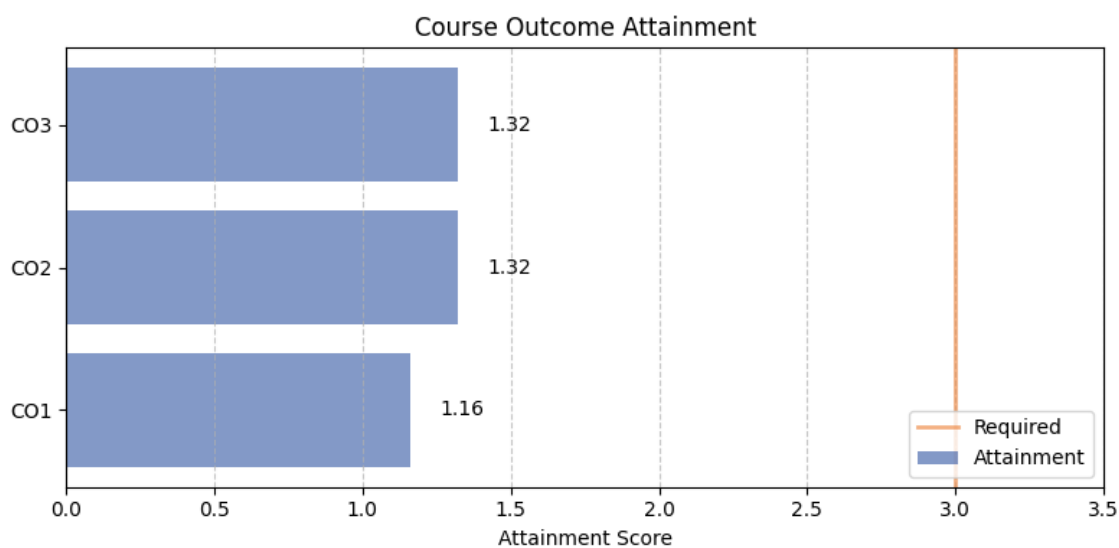
Course Outcome Attainment

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13. Student Learning Categories

Learner Categories Summary

Learner Category	Number of Students
Advanced Learners	2
Medium Learners	2
Slow Learners	21

Student Learning Classification

Student Name	Category	CO1	CO2	CO3
Priya Chadda	Advanced Learner	3	3	3
Sanchi Narang	Advanced Learner	3	3	3
EENA CHAUDHARY	Medium Learner	1	3	3
Cheshtha Narang	Medium Learner	1	3	3
Aditya Goel	Slow Learner	1	1	1
Anisha Chhanpadia	Slow Learner	1	1	1
Dhruv Singla	Slow Learner	1	1	1
Dorjee Phinjo Sona	Slow Learner	1	1	1
Eshaan Chandra	Slow Learner	1	1	1
Hardik Rustagi	Slow Learner	1	1	1
Harsh Gupta	Slow Learner	1	1	1
Jiya Gera	Slow Learner	1	1	1
Keshav Gupta	Slow Learner	1	1	1
Luvisha Verma	Slow Learner	1	1	1
Mehal Raghav	Slow Learner	1	1	1
Neha Raju Shinde	Slow Learner	1	1	1
Purnendu Vashishtha	Slow Learner	1	1	1
Sagar Bista	Slow Learner	1	1	1
Shoryaveer Singh	Slow Learner	1	1	1
Yash Garg	Slow Learner	1	1	1
Nishtha Arora	Slow Learner	1	1	1
Astha Jaiswal	Slow Learner	1	1	1
Kshitij Khera	Slow Learner	1	1	1
Hitansh Goel	Slow Learner	1	1	1
Sneha Singh	Slow Learner	1	1	1

14. Actions taken for weak students

- we beat them

15. Student Feedback

Quantitative Feedback:

Average Rating: 4.37/5

Qualitative Feedback:

course was good

15. Student Feedback

16. Faculty Course Review

lol this field never was suppose to even work how did it work good question!!!!!

SCHOOL OF ENGINEERING & TECHNOLOGY

COURSE FILE

Program: Computer Science Engineering
Course Code: CSE4708
Course Title: Cyber Forensics
Module Semester: 7th Sem
Session: 2021-2022

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1.   Course Details

- Course Code: CSE4708
- Course Title: Cyber Forensics
- **Module/Semester: 7th Sem**
- Session: 2021-2022

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- Be a lifelong learner with an entrepreneurial mindset to innovate in the constantly changing global scenario.

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* Providing high-quality learning experience to our students, preparing them to be global leaders, and contributing to the development of society through research, innovation, and entrepreneurship.
* Creating an inclusive and diverse learning environment that fosters creativity, critical thinking, and ethical values.

* Collaborating with industry, government, and other institutions to address complex societal challenges and promote sustainable development.

5. PEOs and POs & PSOs of the Program

Program Educational Objectives (PEO):

PEO 1: Identify real-life problems and develop creative and innovative hardware/software-based solutions.

PEO 2: Achieve professional development through self-learning to adapt to the technological changes in the ever changing field of computing.

PEO 3: Engage in life-long learning of computer engineering technologies, critical thinking and continuous ingenuity and apply them in real-life applications.

PEO 4: Accomplish leadership roles by imbibing ethics and professionalism with emphasis on sustainable development of the society.

Program Outcomes (PO):

PO1: Apply the foundational concepts of mathematics, science and computer engineering to find novel solutions for complex real-life engineering problems.

PO2: Identify, formulate, review literature and analyze complex computer engineering problems reaching substantiated conclusions and derive a coherent logic that can be implemented by computers.

PO3: Design analytical and computational models for solving complex engineering problems giving due consideration to issues related to public health and safety, cultural and societal constraints, and environmental concerns.

PO4: Use research-based knowledge, methods, tools and techniques for data collection, designing digital computing systems, analyzing and interpreting the results to provide substantiated conclusions.

PO5: Use appropriate tools to model complex computer engineering problems through identification of the limitations and creating solutions to predict the real-world phenomena.

PO6: Use appropriate contextual knowledge of computer engineering to review and assess societal, health, legal, cultural, safety and contemporary issues and rationalize the ensuing responsibilities towards the society.

PO7: Adopt computer engineering practices in congruence with societal need, understand the working practices and its impact on natural resources for sustainable development.

PO8: Use ethical principles to pursue excellence in developing computer engineering systems and behave appropriately to develop a reliable and trustworthy relationship with others.

PO9: Function effectively as a reliable and responsible individual, and as a member or leader in diverse computer engineering teams, and in multidisciplinary settings, thereby placing team goals ahead of individual interests.

PO10: Communicate effectively by capturing the desirable computer system requirements for preparation of specification documents, write clear and concise report such as laboratory files, research papers, thesis, and presentation materials.

PO11: Demonstrate knowledge of computer engineering and management principles for the completion of individual or group projects in multidisciplinary environments.

PO12: Recognize the evolving technological changes and engage as an independent and life-long learner

in both computing and non-computing fields.

Program Specific Outcomes (PSO):

PSO1: Identify applicable tools and techniques related to data science practice such as data collection, cleaning, analysis, modelling, evaluation and result interpretation and apply them for deriving hidden and meaningful patterns for appropriate actionable insights.

PSO2: Develop intelligent systems for various real-life domains like healthcare, transportation, finance etc. using Artificial Intelligence methodologies.

PSO3: Understand the foundational concepts and techniques to protect computing systems against constantly evolving cybersecurity threats and analyze security breaches and violations of cyber systems and networks to provide appropriate solutions.

PSO4: Design effective security systems to mitigate risks, threats and vulnerabilities for protecting the organizations against cyber threats.

6. Course Description and its objectives

The goal of this course "Cyber Forensics" is to understand the principles and practice of security attacks and fundamentals of security protocols and its defense. It covers operating system security, database security, network-based security threats and their social and legal aspect. Cyber Forensics is a core elective course in computer science and engineering and computer science undergraduate program. This course focuses on to understand Computer Forensics, Computing Investigations, Enforcement Agency Investigations. This course will provide overview of types of computer forensics, data recovery, electronic evidence, threats, surveillance.

7. Course Outcomes and CO-PO Mapping

Course Outcomes:

CO1: Understand a brief overview of Computer Forensics Fundamentals.

CO2: Identify the features of Data Recovery.

CO3: Understanding of Reconstructing Past Events.

CO4: Work with cyber forensics tools.

CO/PO Mapping:

Course Outcomes (CO)	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CO1	1	2			1	2			1	3			1	3		
CO2		1	2			1	2			1	3			1	3	
CO3			1	2			1	2			1	3			1	3
CO4				1	2			1	2			1	3			1

8. Course Syllabus

Sr. No.	Content	CO	Sessions
1	Computer Forensics Fundamentals.	CO1	3
2	Types of Computer Forensics Technology	CO1	3
3	Types of Vendor and Computer Forensics Services.	CO1	2
4	Data Recovery	CO2	2
5	Evidence Collection and Data Seizure	CO3	2
6	Duplication and Preservation of Digital Evidence	CO2	2
7	Computer Image Verification and Authentication.	CO3	2
8	Discover of Electronic Evidence	CO3	2
9	Identification of Data	CO3	3
10	Reconstructing Past Events	CO3	2
11	Networks.	CO2	1
12	Fighting against Macro Threats	CO3	2
13	Information Warfare Arsenal	CO4	2
14	Tactics of the Military	CO3	2
15	Tactics of Terrorist and Rogues	CO4	2
16	Tactics of Private Companies.	CO3	2
17	The Future â€" Arsenal	CO4	2
18	Surveillance Tools	CO4	1
19	Victims and Refugees	CO4	2
20	Advanced Computer Forensics.	CO4	2
21	Payload, Key Management	CO4	2

9. Learning Resources

Text Books:

    ✓ Computer Forensics by John R. Vacca

Reference Links:

- Windows Forensics by Chad Steel
- Cybercrime and Society by Majid Yar
- Software Forensics by Robert M Slade

10. Weekly Timetable

Time	Monday	Tuesday	Wednesday	Thursday	Friday
9:15-10:10	Cyber Forensics (CSE4708)				
10:15-11:10		Cyber Forensics (CSE4708)			
11:15-12:10			Cyber Forensics (CSE4708)		
12:15-13:10				Cyber Forensics (CSE4708)	
13:15-14:10					Cyber Forensics (CSE4708)
14:15-15:10				Cyber Forensics (CSE4708)	
15:15-16:10			Cyber Forensics (CSE4708)		
16:15-17:10		Cyber Forensics (CSE4708)			
17:15-18:10	Cyber Forensics (CSE4708)				

11. Registered Students List

Sr. No.	Roll No	Student Name	Unique Id
1	220C2030001	Aditya Goel	240334
2	220C2030002	Anisha Chhanpadia	240335
3	220C2030003	Dhruv Singla	240336
4	220C2030004	Dorjee Phinjo Sona	240337
5	220C2030005	EENA CHAUDHARY	240338
6	220C2030006	Eshaan Chandra	240339
7	220C2030007	Hardik Rustagi	240340
8	220C2030008	Harsh Gupta	240341
9	220C2030009	Jiya Gera	240342
10	220C2030010	Keshav Gupta	240343
11	220C2030011	Luvisha Verma	240345
12	220C2030012	Mehal Raghav	240346
13	220C2030013	Neha Raju Shinde	240347
14	220C2030014	Priya Chadda	240348
15	220C2030015	Purnendu Vashishtha	240349
16	220C2030016	Sagar Bista	240350
17	220C2030017	Shoryaveer Singh	240351
18	220C2030018	Yash Garg	240352
19	220C2030019	Sanchi Narang	240870
20	220C2030020	Cheshtha Narang	240871
21	220C2030021	Nishtha Arora	240909
22	220C2030022	Astha Jaiswal	240794
23	220C2030023	Kshitij Khera	240333
24	220C2030024	Hitansh Goel	240943
25	220C2030025	Sneha Singh	240963

19. Attendance Report

Sr. No.	Roll No	Student Name	Attendance Out of(100)
1	220C2030001	Aditya Goel	75.00
2	220C2030002	Anisha Chhanpadia	85.19
3	220C2030003	Dhruv Singla	71.43
4	220C2030004	Dorjee Phinjo Sona	89.29
5	220C2030005	EENA CHAUDHARY	100.00
6	220C2030006	Eshaan Chandra	85.71
7	220C2030007	Hardik Rustagi	78.57
8	220C2030008	Harsh Gupta	82.14
9	220C2030009	Jiya Gera	92.86
10	220C2030010	Keshav Gupta	75.00
11	220C2030011	Luvisha Verma	92.86
12	220C2030012	Mehal Raghav	81.48
13	220C2030013	Neha Raju Shinde	89.29
14	220C2030014	Priya Chadda	85.19
15	220C2030015	Purnendu Vashishtha	96.43
16	220C2030016	Sagar Bista	96.43
17	220C2030017	Shoryaveer Singh	60.71
18	220C2030018	Yash Garg	71.43
19	220C2030019	Sanchi Narang	96.43
20	220C2030020	Cheshtha Narang	96.43
21	220C2030021	Nishtha Arora	100.00
22	220C2030022	Astha Jaiswal	42.86
23	220C2030023	Kshitij Khera	78.57
24	220C2030024	Hitansh Goel	82.14
25	220C2030025	Sneha Singh	82.14

## 18, 20 Detail of Marks in all components up to the End Semester

Sr. No.	Roll No	Student Name	Assignment Out	End term examination Out	Group Presentation Out	Individual Class Participation Out	Mid Term Exam Out	Role Play Out	Total Marks(100.0) Out
1	220C2030001	Aditya Goel	8.5	0.0	9.0	0.0	6.5	8.0	32.00
2	220C2030002	Anisha Chhanpadia	8.5	21.0	9.0	9.0	10.5	8.0	66.00
3	220C2030003	Dhruv Singla	8.5	24.0	9.0	1.0	6.0	8.0	56.50
4	220C2030004	Dorjee Phinjo Sona	8.5	18.5	9.0	7.0	3.0	8.0	54.00
5	220C2030005	EENA CHAUDHARY	9.0	29.0	9.0	8.5	8.0	8.0	71.50
6	220C2030006	Eshaan Chandra	7.5	26.0	8.5	6.0	8.0	7.5	63.50
7	220C2030007	Hardik Rustagi	9.0	21.0	8.5	7.5	4.5	7.5	58.00
8	220C2030008	Harsh Gupta	8.0	20.0	7.5	0.0	7.5	8.0	51.00
9	220C2030009	Jiya Gera	8.5	26.5	8.5	7.5	8.5	8.0	67.50
10	220C2030010	Keshav Gupta	7.5	5.0	8.5	0.0	4.0	8.0	33.00
11	220C2030011	Luvisha Verma	8.0	20.0	7.5	9.5	7.5	7.0	59.50
12	220C2030012	Mehal Raghav	8.0	30.0	7.5	3.0	4.0	7.0	59.50
13	220C2030013	Neha Raju Shinde	8.5	20.5	8.5	6.0	6.0	7.5	57.00
14	220C2030014	Priya Chadda	9.0	34.0	8.5	6.5	16.0	8.0	82.00
15	220C2030015	Purnendu Vashishtha	8.0	11.5	8.0	6.5	8.0	7.0	49.00
16	220C2030016	Sagar Bista	9.5	23.0	8.0	7.5	12.0	7.0	67.00
17	220C2030017	Shoryaveer Singh	8.0	21.5	0.0	1.0	2.5	7.0	40.00
18	220C2030018	Yash Garg	8.0	5.0	7.0	0.0	2.5	8.0	30.50
19	220C2030019	Sanchi Narang	9.5	35.0	8.0	9.5	17.0	8.0	87.00
20	220C2030020	Cheshtha Narang	7.5	33.0	9.0	9.5	8.0	8.0	75.00
21	220C2030021	Nishtha Arora	8.5	18.5	7.5	8.5	17.5	8.0	68.50
22	220C2030022	Astha Jaiswal	0.0	0.0	0.0	0.0	0.0	0.0	0.00
23	220C2030023	Kshitij Khera	9.5	15.5	7.5	4.5	8.5	7.0	52.50
24	220C2030024	Hitansh Goel	8.0	11.5	7.5	4.0	3.5	8.0	42.50
25	220C2030025	Sneha Singh	8.0	26.5	8.0	5.5	9.5	8.0	65.50

12. CO Attainment Analysis

CO Attainment Summary

	CO1	CO2	CO3	
	30.00%	50.00%	10.00%	
greater than 3	3	3	22	
s scored greater than 3	12.00%	12.00%	88.00%	
	1	1	3	
ment	1.5000			
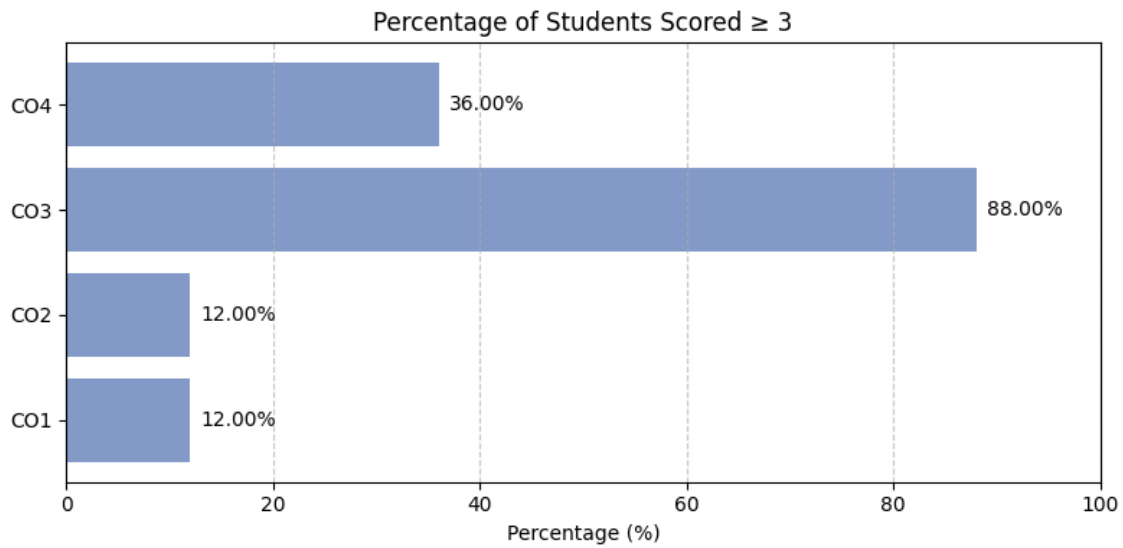
Percentage of Students Scored ≥ 3

Program Attainment

Program Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
Program Attainment	1.48	1.56	2.08	2.52	1.80	1.56	2.08	2.52	1.80	1.54	1.99	2.59	1.84	1.54	1.99	2.59

Program Attainment
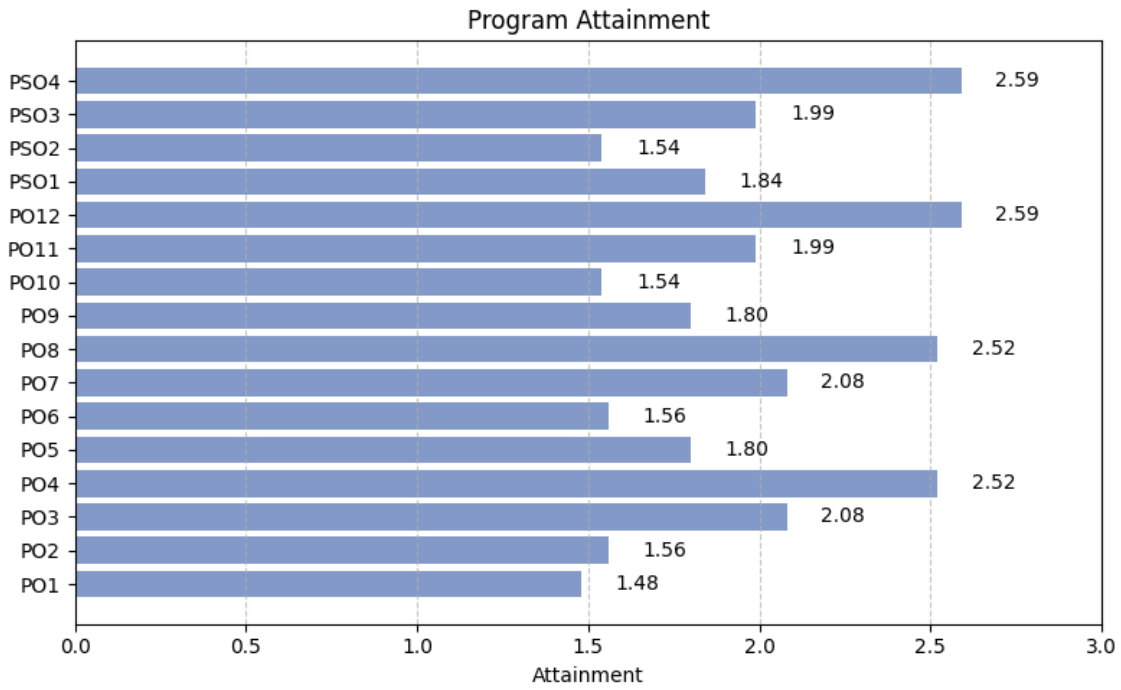
Student-wise CO Achievement

NAME	CO1 Score	CO2 Score	CO3 Score	CO4 Score
Aditya Goel	1	1	3	1
Anisha Chhanpadia	2	2	3	3
Dhruv Singla	1	2	3	1
Dorjee Phinjo Sona	1	1	3	2
EENA CHAUDHARY	2	2	3	3
Eshaan Chandra	1	2	3	2
Hardik Rustagi	1	2	3	3
Harsh Gupta	1	2	3	1
Jiya Gera	2	2	3	3
Keshav Gupta	1	1	3	1
Luvisha Verma	1	1	3	3
Mehal Raghav	1	2	3	1
Neha Raju Shinde	1	2	3	2
Priya Chadda	3	3	3	2
Purnendu Vashishtha	1	1	3	2
Sagar Bista	2	2	3	3
Shoryaveer Singh	1	2	1	1
Yash Garg	1	1	2	1
Sanchi Narang	3	3	3	3
Cheshtha Narang	1	3	3	3
Nishtha Arora	3	1	3	3
Astha Jaiswal	1	1	1	1
Kshitij Khera	2	1	3	1
Hitansh Goel	1	1	3	1
Sneha Singh	2	2	3	2
Average	**1.48**	**1.72**	**2.80**	**1.96**
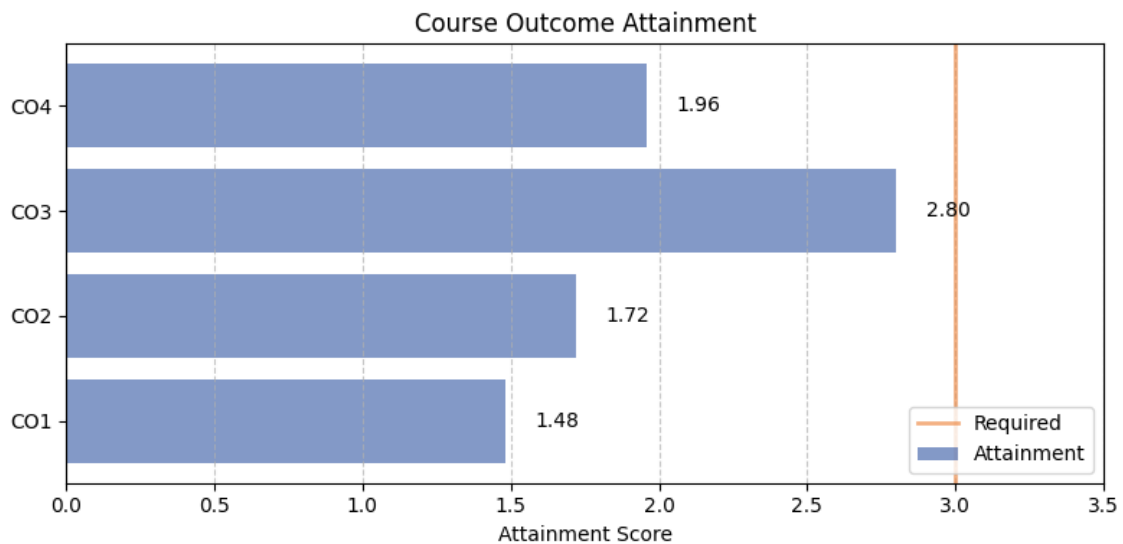
Course Outcome Attainment

20

13. Student Learning Categories

Learner Categories Summary

Learner Category	Number of Students
Advanced Learners	1
Medium Learners	23
Slow Learners	1

Student Learning Classification

Student Name	Category	CO1	CO2	CO3	CO4
Sanchi Narang	Advanced Learner	3	3	3	3
Aditya Goel	Medium Learner	1	1	3	1
Anisha Chhanpadia	Medium Learner	2	2	3	3
Dhruv Singla	Medium Learner	1	2	3	1
Dorjee Phinjo Sona	Medium Learner	1	1	3	2
EENA CHAUDHARY	Medium Learner	2	2	3	3
Eshaan Chandra	Medium Learner	1	2	3	2
Hardik Rustagi	Medium Learner	1	2	3	3
Harsh Gupta	Medium Learner	1	2	3	1
Jiya Gera	Medium Learner	2	2	3	3
Keshav Gupta	Medium Learner	1	1	3	1
Luvisha Verma	Medium Learner	1	1	3	3
Mehal Raghav	Medium Learner	1	2	3	1
Neha Raju Shinde	Medium Learner	1	2	3	2
Priya Chadda	Medium Learner	3	3	3	2
Purnendu Vashishtha	Medium Learner	1	1	3	2
Sagar Bista	Medium Learner	2	2	3	3
Shoryaveer Singh	Medium Learner	1	2	1	1
Yash Garg	Medium Learner	1	1	2	1
Cheshtha Narang	Medium Learner	1	3	3	3
Nishtha Arora	Medium Learner	3	1	3	3
Kshitij Khera	Medium Learner	2	1	3	1
Hitansh Goel	Medium Learner	1	1	3	1
Sneha Singh	Medium Learner	2	2	3	2
Astha Jaiswal	Slow Learner	1	1	1	1

14. Actions taken for weak students

- we beat them
- we kill some as well
- some kill themselves

15. Student Feedback

Quantitative Feedback:

Average Rating: 5.00/5

Qualitative Feedback:

lol all good

16. Faculty Course Review

all good but need better students

PRATYUT

Plot Number 15, Shanti Nagar, P.O. Sarojini Nagar, Lucknow, Uttar Pradesh - 226008

📞 9695570887 ✉ pratyut987@gmail.com 🔗 linkedin.com/in/pratyut-/ 🐙 github.com/PratyutCS

Education

BML Munjal University, Gurgaon	**November 2021 – September 2025**
Bachelor of Technology in Computer Science And Engineering	*Current CGPA: 7.54/10*

City Montessori School, Lucknow	**April 2017 – March 2021**
ISC/ICSE	*Percentage: 94.75%/91.87%*

Relevant Coursework

- Attack and Defence
- Data Structures
- Computer Networks
- Database Management
- Security Audit
- OOP using C++
- Blockchain
- Operating System

Experience

IIT Bhilai	**January 2025**
Intern	*Bhilai, Chhattisgarh*

- Implemented parallel computing solutions utilizing **CPU/GPU multi-threading** in **C** to optimize detection of weak **2048-bit RSA** keys vulnerable to factorization attacks.
- Developed and optimized **C** code for concurrent processing across multiple cores, contributing to research methodology for identifying cryptographic vulnerabilities in **RSA** key generation and validation processes.

BML Munjal University	**December 2022 – July 2024**
Software Developer	*Kapriwas, Haryana*

- Spearheaded development of database management system using **EJS, Node/Express, MongoDB**, enabling **28%** paperwork reduction across 11 departments and Designed event report system using **Flutter, Node.js, MongoDB & JWT**, achieving **95%** faster report generation
- Led IQAC full-stack webpage development, reducing file search time by **86%** and implemented data quality measures, reducing workload by **60%**

Projects

Blockchain | *PYTHON* — Github

- Developed a fully **decentralized blockchain** implementation for cryptocurrencies from scratch, utilizing the **latest cryptography protocols**.
- Employed **peer-to-peer technology** and networks to enhance communication efficiency, achieving a 4% improvement in mining time through **multi-threading on the CPU**.
- Applied robust error handling mechanisms, enabling automatic transitions.

BeeHive | *RUST, REACT* — Github

- Developed and implemented a comprehensive **Windows Registry Hive analysis tool** using **Rust and React.js**, enabling efficient comparison and visualization of registry files through an intuitive interface for **forensic analysis**.
- Designed and implemented registry comparison functionality with optimized diff algorithms, enabling officers to efficiently analyze and identify changes between similar registry hives through an interactive dashboard interface.

Invisible Image Watermarking | *NODE.JS, HTML, CSS, EJS, PYTHON, JAVASCRIPT* — Github

- Engineered a full-stack web-page using **Node.js, Express.js, HTML, CSS, EJS, Python, and JavaScript** to implement spatial and DCT watermarking for videos and images.
- Used **system commands** for execution of **Python scripts** for LSB and DCT watermarking through JavaScript, achieving a 67% increase in code efficiency and a 27% reduction in embedding time with automated client-side updates.

ACHIEVEMENTS

- 50+ Problem solved in LeetCode
- SIH college round qualifiers 2022
- ICPC regional qualifier
- Certified Microsoft Cybersecurity Analyst

Technical Skills

Languages: Python, Java, C++, HTML/CSS, JavaScript, Embedded C, Rust, GoLang, Dart, Bash
Developer Tools: VS Code, Excel, Android Studio, Git, VMWare, AWS, Azure, MongoDB, Postman
Technologies/Frameworks: Linux, Jenkins, GitHub, Flutter, Matplotlib, Seaborn, Numpy, Pandas, React, Express, puppeteer, FFmpeg, OpenCV, Nmap, Metasploit