**BML MUNJAL**
**UNIVERSITY™**

FROM HERE TO THE WORLD

# SCHOOL OF ENGINEERING & TECHNOLOGY

# COURSE FILE

Program: Computer Science Engineering
Course Code: CSE3718
Course Title: Computer Vision
Module Semester: 7th Sem
Session: 2024-25

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# 1.    Course Details

- Course Code: CSE3718
- Course Title: Computer Vision
- **Module/Semester: 7th Sem**
- 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 & 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

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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

In an increasingly visual world, computer vision has emerged as a critical field at the intersection of computer science, artificial intelligence, and image processing having numerous real-world applications. The course will explore various applications of computer vision, such as facial recognition, autonomous vehicles, medical image analysis, and augmented reality, demonstrating its relevance across diverse industries. This course provides a comprehensive exploration of the fundamental concepts, techniques, and practical applications of computer vision. Upon successful completion of the course, students will have the knowledge and skills needed to work on cutting-edge computer vision projects and contribute to the advancement of this dynamic field.

# 7. Course Outcomes and CO-PO Mapping

**Course Outcomes:**

CO1: Understand the theoretical and practical aspects of computer vision.

CO2: Apply and demonstrate the various computer vision algorithms and techniques to different domains.

CO3: Design framework/technique/algorithm to solve real-life problems using computer vision methods.

**CO/PO Mapping:**

| Course Outcomes (CO) | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | | | 2 | 2 | | 1 | | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 0 |
| CO2 | | 3 | | 2 | 3 | 3 | 2 | 0 | 2 | 0 | 2 | 0 | 2 | 0 | 0 | 0 |
| CO3 | 3 | 2 | 3 | 2 | 3 | 3 | 1 | | 3 | 3 | 3 | 2 | 0 | 2 | 0 | 0 |

# 8. Course Syllabus

| Sr. No. | Content | CO | Sessions |
|---|---|---|---|
| 1 | Introduction : Image Processing, Computer Vision and Computer Graphics , What is Computer Vision - Low-level, Mid-level, High-level , Overview of Diverse Computer Vision Applications: Document Image, Analysis, Biometrics, Object Recognition, Tracking, Medical Image Analysis, Content-Based Image Retrieval, Video Data Processing, Multimedia, Virtual Reality and Augmented Reality. | CO1, CO2 | 2 |
| 2 | Image formation, camera model, Projective geometry, Homographies, Geometric transformations, The Pinhole camera model, camera calibration, camera extrinsic and intrinsic parameters, Radiometry and reflectance, BRDF, color and lighting. Filters, image pyramids, Numerical representation of images, Image stitching. | CO1, CO2 | 4 |
| 3 | Image-Processing Python Libraries Used in computer vision: OpenCV, Pillow/PIL, SciPy, Scikit-Image etc. | CO1 | 3 |
| 4 | Image Processing, Feature extraction, and understanding feature engineering, shape, histogram, color, spectral, texture, Feature analysis, feature vectors, distance /similarity measures, data preprocessing, Edge detection, Edge detection, Edge detection performance, Hough transform, corner detection. Edges - Canny, Line detectors (Hough Transform), Corners - Harris and Hessian Affine, Orientation Histogram, SIFT, SURF, HOG and Gaussian derivative filters and DWT. | CO1,CO2 | 5 |
| 5 | Motion Estimation : Stereo Vision: two view and multi view stereo, Multiview geometry, epipolar geometry, Structure from motion, Optical Flow and Motion Analysis, parametric motion. Applications in terms of video stabilization, object tracking. | CO2,CO3 | 5 |
| 6 | Object Recognition: Traditional Methods: HoG/SIFT features, Bayes classifiers, SVM classifiers; Object Recognition: Deep Learning Methods, Deep neural networks, classification networks, object proposal networks. | CO2, CO3 | 3 |
| 7 | Depth estimation, 3D Reconstruction, and Shape Representation, Diffusion models. | CO2 | 6 |
| 8 | Segmentation: Contour based representation, Region based representation, Deformable curves and surfaces, Region Growing, Various methods of image segmentation, Semantic Segmentation. | CO2, CO3 | 4 |
| 9 | Image Understanding and Computer Vision Applications: Pattern recognition methods, Face detection, Face recognition, 3D shape models of faces Application: Surveillance – foreground-background separation –human gait analysis Application: In-vehicle vision system: locating roadway – road markings – identifying road signs – locating pedestrians. Learn various application computer vision techniques. | CO3 | 4 |

## 9. Learning Resources

**Text Books:**

✓ Richard Szeliski, Computer Vision: Algorithms and Applications (CVAA), 2nd Edition, Springer, 2022

✓ Solem, Jan. Programming Computer Vision with Python: Tools and algorithms for analyzing images. O'Reilly Media, Inc., 2012.

✓ Hartley and Zisserman, Multiple View Geometry in Computer Vision, Cambridge University Press, 2004

✓ Forsyth and Ponce, Computer Vision: A Modern Approach, Prentice Hall, 2002

✓ Palmer, Stephen E. Vision science: Photons to phenomenology. MIT press, 1999.

✓ Computer Vision and Image Processing, Adrian Low, Second Edition, B.S.Publications

✓ D. Forsyth and J. Ponce, Computer Vision - A modern approach, Prentice Hall

**Reference Links:**

• https://www.coursera.org/learn/introduction-computer-vision-watson-opencv
• https://www.coursera.org/learn/computer-vision-basics
• https://www.youtube.com/@firstprinciplesofcomputerv3258

## 10. Weekly Timetable

| Time | Monday | Tuesday | Wednesday | Thursday | Friday |
|---|---|---|---|---|---|
| 9:15-10:10 | | | | | |
| 10:15-11:10 | | | | | |
| 11:15-12:10 | | | | | |
| 12:15-13:10 | | | | | |
| 13:15-14:10 | | | | | |
| 14:15-15:10 | | | | | |
| 15:15-16:10 | | | | | |
| 16:15-17:10 | | | | | |
| 17:15-18:10 | | | | | |

## 11. Registered Students List

| Sr.No | Student Name | Unique Id. |
|---|---|---|
| 1 | Siddharth Singh Sud | 200198 |
| 2 | Aayush  Dubey | 210186 |
| 3 | Rishita  Ojha | 210187 |
| 4 | Pelleti Sujith Reddy | 210188 |
| 5 | Akshay Kumar  Jain | 210190 |
| 6 | Mallidi Sai Prabhas | 210191 |
| 7 | Sivapuram Shanmukha Rahul | 210192 |
| 8 | Vishal  Saharan | 210193 |
| 9 | Subhranshu  Behura | 210194 |
| 10 | Anushka  Pandey | 210199 |
| 11 | Shashank  Goswami | 210200 |
| 12 | ARHAM  ALAM | 210202 |
| 13 | Thotakura Sriram Varma | 210204 |
| 14 | NIPUN  RAJPUT | 210205 |
| 15 | Avi  Vyas | 210206 |
| 16 | Kartik  Agarwala | 210207 |
| 17 | Vardaan | 210208 |
| 18 | Japesh  Goyal | 210209 |
| 19 | M Mahaansh Reddy | 210212 |
| 20 | Ketan  Thakur | 210213 |
| 21 | Godavarthi Sai Nikhil | 210214 |
| 22 | SYED MOHD  ABID | 210221 |
| 23 | Jangili Sai Nishith | 210226 |
| 24 | Velumuri Suresh Raj | 210229 |
| 25 | Shreya  Rustagi | 210231 |
| 26 | Anoushka Srivastava | 210232 |
| 27 | NICHENAMETLA  KARTHIK RAJA | 210371 |
| 28 | Milind   Jain | 210372 |
| 29 | Dasariraju Deepak | 210374 |
| 30 | Aditi Singh | 210382 |
| 31 | Pulkit  Yadav | 210392 |
| 32 | Devender  Kumar | 210403 |
| 33 | Dyuti  Dasmahapatra | 210424 |
| 34 | Mohammed Ayan Yezdani | 210456 |
| 35 | Sahil | 210472 |
| 36 | Pallav  Jain | 210481 |
| 37 | Visarapu Rajeswari | 210491 |
| 38 | Aksh  Gupta | 210492 |
| 39 | Ashish  Nagal | 210529 |
| 40 | abhimanyu  gulati | 210198 |
| 41 | Harshita  Bansal | 210210 |
| 42 | Bhaskar Vivek Agarwal | 210235 |
| 43 | Jazlyn  Jose | 210236 |
| 44 | Akshita  Singh | 210239 |
| 45 | Priyansh  Tyagi | 210240 |
| 46 | Parinita  Singh | 210241 |
| 47 | Vandamasu Sai Sumanth | 210257 |
| 48 | D  VEERA  HARSHA VARDHAN REDDY | 210258 |
| 49 | Soum  Nag | 210260 |
| 50 | Nihar Ranjan  Murudi | 210273 |
| 51 | D M V S V Karthik Jayanthi | 210275 |
| 52 | Kodati Jaideep | 210284 |
| 53 | Mrinal  Kanti Mishra | 210286 |
| 54 | Deepeshwar | 210287 |

| 55 | Burugupalli Sai Chaitanya | 210288 |
|---|---|---|
| 56 | SIMRAN SAINI | 210292 |
| 57 | Bhanu pratap Singh | 210293 |
| 58 | Amit Pratap Singh | 210294 |
| 59 | Shreshtth Kumar Agarwaal | 210301 |
| 60 | Kanika Sharma | 210302 |
| 61 | Aaryan Bhardwaj | 210303 |
| 62 | Naman khandelwal | 210306 |
| 63 | Vivaan Sahai | 210318 |
| 64 | S Phanendra Krishna | 210322 |
| 65 | Aryaman Sital | 210323 |
| 66 | Ayush Agarwal | 210328 |
| 67 | Himanshu | 210329 |
| 68 | Mukul Yadav | 210349 |
| 69 | Naman Jain | 210350 |
| 70 | Harsh Singh | 210351 |
| 71 | Sarthak Jindal | 210352 |
| 72 | Palak Gupta | 210353 |
| 73 | Aanchal Sharma | 210354 |
| 74 | Shivam Gupta | 210361 |
| 75 | Pranjal Mishra | 210362 |
| 76 | Kriti Banka | 210363 |
| 77 | SHAIK CHUSHMA | 210404 |
| 78 | Sidharth Aggarwal | 210409 |
| 79 | Unnati Gupta | 210517 |
| 80 | Yash Verma | 210537 |
| 81 | Abdul Ahad | 210228 |
| 82 | ekansh sharma | 210259 |
| 83 | lavanya Anand | 210285 |
| 84 | Mubashir Buhari | 210407 |
| 85 | Siri Sujala Gontu | 210410 |
| 86 | Hriday Kapadia | 210414 |
| 87 | Priyansh Jain | 210415 |
| 88 | Kumkum Mittal | 210425 |
| 89 | Adarsh Wadal | 210427 |
| 90 | Dhruv Gupta | 210436 |
| 91 | Chandan Dhingra | 210439 |
| 92 | Tejender | 210444 |
| 93 | Riya Jain | 210447 |
| 94 | Akshat Manohar | 210448 |
| 95 | Ashi Jain | 210451 |
| 96 | Prasoon Kumar | 210452 |
| 97 | Vivek Kumar | 210457 |
| 98 | Ritik Data | 210461 |
| 99 | Sreerama Rama Sai Mehar | 210464 |
| 100 | Vansh Saini | 210465 |
| 101 | Priyanshu Yadav | 210468 |
| 102 | Ridit Jain | 210471 |
| 103 | Mudipalli Nomesh | 210476 |
| 104 | Ayush Aryan | 210477 |
| 105 | Prashant | 210479 |
| 106 | Kothapalli Sravyanth | 210480 |
| 107 | Mandiga Chetan Srikant | 210482 |
| 108 | Abhay Singla | 210484 |
| 109 | Dhruv Goel | 210489 |
| 110 | Himanshu Sharma | 210495 |
| 111 | Vishav Garg | 210519 |
| 112 | Ankur Kaushal | 210526 |

| 113 | Alluri Ajay Reddy | 210528 |
| 114 | Deepak  Bhatt | 210534 |
| 115 | Chandan  Jindal | 210540 |
| 116 | Saurabh  Kumar | 210547 |
| 117 | Aditya  Sahu | 210548 |
| 118 | Govind Ram Tripathi | 200153 |

## 19. Attendance Report

| Sr.No | Student Name | Unique Id. | Attendance |
|---|---|---|---|
| 1 | Siddharth Singh Sud | 200198 | 84.31 |
| 2 | Aayush  Dubey | 210186 | 94.12 |
| 3 | Rishita  Ojha | 210187 | 80.00 |
| 4 | Pelleti Sujith Reddy | 210188 | 82.35 |
| 5 | Akshay Kumar  Jain | 210190 | 88.24 |
| 6 | Mallidi Sai Prabhas | 210191 | 76.47 |
| 7 | Sivapuram Shanmukha Rahul | 210192 | 88.24 |
| 8 | Vishal  Saharan | 210193 | 76.47 |
| 9 | Subhranshu  Behura | 210194 | 90.20 |
| 10 | Anushka  Pandey | 210199 | 80.39 |
| 11 | Shashank  Goswami | 210200 | 79.17 |
| 12 | ARHAM  ALAM | 210202 | 68.63 |
| 13 | Thotakura Sriram Varma | 210204 | 56.86 |
| 14 | NIPUN  RAJPUT | 210205 | 96.08 |
| 15 | Avi  Vyas | 210206 | 88.24 |
| 16 | Kartik  Agarwala | 210207 | 80.39 |
| 17 | Vardaan | 210208 | 80.39 |
| 18 | Japesh  Goyal | 210209 | 90.20 |
| 19 | M Mahaansh Reddy | 210212 | 76.47 |
| 20 | Ketan  Thakur | 210213 | 82.35 |
| 21 | Godavarthi Sai Nikhil | 210214 | 62.75 |
| 22 | SYED MOHD  ABID | 210221 | 88.24 |
| 23 | Jangili Sai Nishith | 210226 | 78.43 |
| 24 | Velumuri Suresh Raj | 210229 | 81.25 |
| 25 | Shreya  Rustagi | 210231 | 84.31 |
| 26 | Anoushka Srivastava | 210232 | 86.27 |
| 27 | NICHENAMETLA  KARTHIK RAJA | 210371 | 84.31 |
| 28 | Milind  Jain | 210372 | 98.04 |
| 29 | Dasariraju Deepak | 210374 | 86.27 |
| 30 | Aditi Singh | 210382 | 78.43 |
| 31 | Pulkit  Yadav | 210392 | 76.47 |
| 32 | Devender  Kumar | 210403 | 80.39 |
| 33 | Dyuti  Dasmahapatra | 210424 | 76.47 |
| 34 | Mohammed Ayan Yezdani | 210456 | 78.43 |
| 35 | Sahil | 210472 | 80.39 |
| 36 | Pallav  Jain | 210481 | 80.39 |
| 37 | Visarapu Rajeswari | 210491 | 96.00 |
| 38 | Aksh  Gupta | 210492 | 76.47 |
| 39 | Ashish  Nagal | 210529 | 78.43 |
| 40 | abhimanyu  gulati | 210198 | 78.43 |
| 41 | Harshita  Bansal | 210210 | 90.20 |
| 42 | Bhaskar Vivek Agarwal | 210235 | 73.91 |
| 43 | Jazlyn  Jose | 210236 | 66.67 |
| 44 | Akshita  Singh | 210239 | 82.35 |
| 45 | Priyansh  Tyagi | 210240 | 56.86 |
| 46 | Parinita  Singh | 210241 | 86.27 |
| 47 | Vandamasu Sai Sumanth | 210257 | 80.39 |
| 48 | D  VEERA  HARSHA VARDHAN REDDY | 210258 | 94.12 |
| 49 | Soum  Nag | 210260 | 84.31 |
| 50 | Nihar Ranjan  Murudi | 210273 | 92.16 |
| 51 | D M V S V Karthik Jayanthi | 210275 | 98.04 |
| 52 | Kodati Jaideep | 210284 | 80.39 |

| 53 | Mrinal  Kanti Mishra | 210286 | 80.39 |
| 54 | Deepeshwar | 210287 | 78.43 |
| 55 | Burugupalli Sai Chaitanya | 210288 | 82.35 |
| 56 | SIMRAN  SAINI | 210292 | 78.43 |
| 57 | Bhanu pratap  Singh | 210293 | 80.39 |
| 58 | Amit Pratap  Singh | 210294 | 54.90 |
| 59 | Shreshtth Kumar Agarwaal | 210301 | 90.20 |
| 60 | Kanika  Sharma | 210302 | 76.47 |
| 61 | Aaryan  Bhardwaj | 210303 | 80.39 |
| 62 | Naman  khandelwal | 210306 | 47.06 |
| 63 | Vivaan  Sahai | 210318 | 78.43 |
| 64 | S Phanendra Krishna | 210322 | 78.43 |
| 65 | Aryaman  Sital | 210323 | 80.39 |
| 66 | Ayush  Agarwal | 210328 | 78.43 |
| 67 | Himanshu | 210329 | 76.47 |
| 68 | Mukul  Yadav | 210349 | 78.43 |
| 69 | Naman  Jain | 210350 | 52.94 |
| 70 | Harsh Singh | 210351 | 90.20 |
| 71 | Sarthak  Jindal | 210352 | 56.86 |
| 72 | Palak  Gupta | 210353 | 86.27 |
| 73 | Aanchal  Sharma | 210354 | 64.71 |
| 74 | Shivam  Gupta | 210361 | 86.27 |
| 75 | Pranjal  Mishra | 210362 | 80.39 |
| 76 | Kriti  Banka | 210363 | 58.82 |
| 77 | SHAIK CHUSHMA | 210404 | 80.39 |
| 78 | Sidharth  Aggarwal | 210409 | 88.24 |
| 79 | Unnati  Gupta | 210517 | 84.00 |
| 80 | Yash  Verma | 210537 | 84.31 |
| 81 | Abdul  Ahad | 210228 | 82.00 |
| 82 | ekansh  sharma | 210259 | 78.00 |
| 83 | lavanya  Anand | 210285 | 84.44 |
| 84 | Mubashir Buhari | 210407 | 54.00 |
| 85 | Siri Sujala  Gontu | 210410 | 90.00 |
| 86 | Hriday  Kapadia | 210414 | 80.00 |
| 87 | Priyansh  Jain | 210415 | 85.11 |
| 88 | Kumkum  Mittal | 210425 | 89.13 |
| 89 | Adarsh Wadal | 210427 | 84.00 |
| 90 | Dhruv  Gupta | 210436 | 78.00 |
| 91 | Chandan  Dhingra | 210439 | 76.00 |
| 92 | Tejender | 210444 | 78.00 |
| 93 | Riya  Jain | 210447 | 87.76 |
| 94 | Akshat  Manohar | 210448 | 78.00 |
| 95 | Ashi  Jain | 210451 | 42.00 |
| 96 | Prasoon  Kumar | 210452 | 80.00 |
| 97 | Vivek Kumar | 210457 | 84.00 |
| 98 | Ritik  Data | 210461 | 80.00 |
| 99 | Sreerama Rama Sai Mehar | 210464 | 78.00 |
| 100 | Vansh  Saini | 210465 | 84.00 |
| 101 | Priyanshu  Yadav | 210468 | 82.00 |
| 102 | Ridit  Jain | 210471 | 84.00 |
| 103 | Mudipalli Nomesh | 210476 | 92.00 |
| 104 | Ayush Aryan | 210477 | 76.00 |
| 105 | Prashant | 210479 | 80.00 |
| 106 | Kothapalli Sravyanth | 210480 | 82.00 |
| 107 | Mandiga Chetan  Srikant | 210482 | 80.00 |
| 108 | Abhay  Singla | 210484 | 75.51 |
| 109 | Dhruv Goel | 210489 | 76.00 |
| 110 | Himanshu  Sharma | 210495 | 80.00 |

| 111 | Vishav  Garg | 210519 | 38.00 |
|-----|--------------|--------|-------|
| 112 | Ankur Kaushal | 210526 | 78.00 |
| 113 | Alluri Ajay Reddy | 210528 | 86.00 |
| 114 | Deepak  Bhatt | 210534 | 80.00 |
| 115 | Chandan  Jindal | 210540 | 81.25 |
| 116 | Saurabh  Kumar | 210547 | 82.00 |
| 117 | Aditya  Sahu | 210548 | 85.42 |
| 118 | Govind Ram Tripathi | 200153 | 76.00 |

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

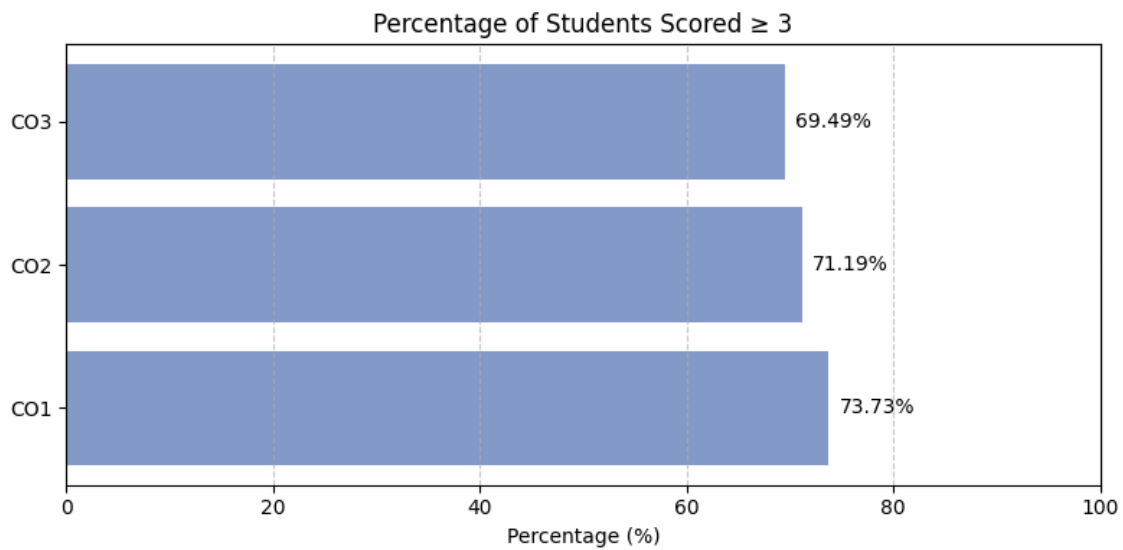| Sr.No | Student Name | Unique Id. | Grading | Assignment Out of (20) | Mid Term Exam Out of (20) | Project Out of (40) | Quiz Offline NON ERP Out of (20) | Total Marks(100.0) Out of (100) |
|---|---|---|---|---|---|---|---|---|
| 1 | Siddharth Singh Sud | 200198 | C | 12.0 | 10.0 | 24.0 | 7.5 | 53.50 |
| 2 | Aayush Dubey | 210186 | A+ | 18.0 | 18.0 | 36.0 | 10.0 | 82.00 |
| 3 | Rishita Ojha | 210187 | C | 10.0 | 12.0 | 26.0 | 7.25 | 55.25 |
| 4 | Pelleti Sujith Reddy | 210188 | B+ | 10.0 | 14.0 | 32.0 | 8.5 | 64.50 |
| 5 | Akshay Kumar Jain | 210190 | A | 14.0 | 16.0 | 32.0 | 10.0 | 72.00 |
| 6 | Mallidi Sai Prabhas | 210191 | B | 12.0 | 16.0 | 30.0 | 4.5 | 62.50 |
| 7 | Sivapuram Shanmukha Rahul | 210192 | A | 12.0 | 16.0 | 32.0 | 11.5 | 71.50 |
| 8 | Vishal Saharan | 210193 | C+ | 12.0 | 12.0 | 28.0 | 5.25 | 57.25 |
| 9 | Subhranshu Behura | 210194 | A+ | 18.0 | 18.0 | 36.0 | 9.0 | 81.00 |
| 10 | Anushka Pandey | 210199 | B | 10.0 | 16.0 | 28.0 | 7.25 | 61.25 |
| 11 | Shashank Goswami | 210200 | C+ | 12.0 | 12.0 | 28.0 | 4.75 | 56.75 |
| 12 | ARHAM ALAM | 210202 | A+ | 18.0 | 18.0 | 36.0 | 9.0 | 81.00 |
| 13 | Thotakura Sriram Varma | 210204 | A+ | 16.0 | 18.0 | 36.0 | 11.0 | 81.00 |
| 14 | NIPUN RAJPUT | 210205 | B+ | 16.0 | 14.0 | 30.0 | 8.0 | 68.00 |
| 15 | Avi Vyas | 210206 | A+ | 16.0 | 16.0 | 36.0 | 13.75 | 81.75 |
| 16 | Kartik Agarwala | 210207 | A | 18.0 | 14.0 | 30.0 | 10.5 | 72.50 |
| 17 | Vardaan | 210208 | C | 10.0 | 12.0 | 26.0 | 5.0 | 53.00 |
| 18 | Japesh Goyal | 210209 | B+ | 14.0 | 18.0 | 30.0 | 6.5 | 68.50 |
| 19 | M Mahaansh Reddy | 210212 | C | 10.0 | 10.0 | 24.0 | 7.0 | 51.00 |
| 20 | Ketan Thakur | 210213 | A | 14.0 | 16.0 | 34.0 | 8.25 | 72.25 |
| 21 | Godavarthi Sai Nikhil | 210214 | B+ | 14.0 | 16.0 | 30.0 | 5.0 | 65.00 |
| 22 | SYED MOHD ABID | 210221 | B+ | 12.0 | 14.0 | 30.0 | 9.0 | 65.00 |
| 23 | Jangili Sai Nishith | 210226 | B+ | 12.0 | 14.0 | 32.0 | 10.0 | 68.00 |
| 24 | Velumuri Suresh Raj | 210229 | B | 12.0 | 16.0 | 30.0 | 5.25 | 63.25 |
| 25 | Shreya Rustagi | 210231 | B | 14.0 | 14.0 | 28.0 | 7.75 | 63.75 |
| 26 | Anoushka Srivastava | 210232 | B | 12.0 | 14.0 | 26.0 | 8.5 | 60.50 |
| 27 | NICHENAMETLA KARTHIK RAJA | 210371 | B+ | 12.0 | 16.0 | 30.0 | 7.25 | 65.25 |
| 28 | Milind Jain | 210372 | B+ | 14.0 | 14.0 | 30.0 | 8.0 | 66.00 |
| 29 | Dasariraju Deepak | 210374 | B+ | 16.0 | 18.0 | 30.0 | 5.5 | 69.50 |
| 30 | Aditi Singh | 210382 | B | 10.0 | 12.0 | 28.0 | 9.75 | 59.75 |
| 31 | Pulkit Yadav | 210392 | C | 10.0 | 12.0 | 24.0 | 4.75 | 50.75 |
| 32 | Devender Kumar | 210403 | D | 8.0 | 10.0 | 22.0 | 8.5 | 48.50 |
| 33 | Dyuti Dasmahapatra | 210424 | C+ | 10.0 | 14.0 | 28.0 | 7.0 | 59.00 |

| 34 | Mohammed Ayan Yezdani | 210456 | C+ | 12.0 | 14.0 | 26.0 | 6.0 | 58.00 |
|----|----------------------|--------|-----|------|------|------|------|-------|
| 35 | Sahil | 210472 | D | 10.0 | 10.0 | 22.0 | 6.75 | 48.75 |
| 36 | Pallav Jain | 210481 | B+ | 14.0 | 14.0 | 30.0 | 8.0 | 66.00 |
| 37 | Visarapu Rajeswari | 210491 | B+ | 12.0 | 14.0 | 30.0 | 12.25 | 68.25 |
| 38 | Aksh Gupta | 210492 | A | 18.0 | 16.0 | 34.0 | 9.5 | 77.50 |
| 39 | Ashish Nagal | 210529 | C | 10.0 | 12.0 | 24.0 | 4.0 | 50.00 |
| 40 | abhimanyu gulati | 210198 | C+ | 10.0 | 14.0 | 26.0 | 7.5 | 57.50 |
| 41 | Harshita Bansal | 210210 | B | 10.0 | 12.0 | 30.0 | 9.75 | 61.75 |
| 42 | Bhaskar Vivek Agarwal | 210235 | A+ | 16.0 | 18.0 | 34.0 | 11.5 | 79.50 |
| 43 | Jazlyn Jose | 210236 | B+ | 16.0 | 16.0 | 30.0 | 9.0 | 71.00 |
| 44 | Akshita Singh | 210239 | B | 10.0 | 14.0 | 32.0 | 8.0 | 64.00 |
| 45 | Priyansh Tyagi | 210240 | A | 14.0 | 16.0 | 36.0 | 7.5 | 73.50 |
| 46 | Parinita Singh | 210241 | B+ | 16.0 | 16.0 | 30.0 | 8.75 | 70.75 |
| 47 | Vandamasu Sai Sumanth | 210257 | B+ | 14.0 | 14.0 | 32.0 | 8.0 | 68.00 |
| 48 | D VEERA HARSHA VARDHAN REDDY | 210258 | A | 16.0 | 16.0 | 30.0 | 10.0 | 72.00 |
| 49 | Soum Nag | 210260 | B | 14.0 | 14.0 | 28.0 | 7.0 | 63.00 |
| 50 | Nihar Ranjan Murudi | 210273 | B | 12.0 | 14.0 | 28.0 | 5.25 | 59.25 |
| 51 | D M V S V Karthik Jayanthi | 210275 | B+ | 14.0 | 16.0 | 32.0 | 7.5 | 69.50 |
| 52 | Kodati Jaideep | 210284 | B+ | 12.0 | 16.0 | 32.0 | 5.75 | 65.75 |
| 53 | Mrinal Kanti Mishra | 210286 | A | 14.0 | 18.0 | 30.0 | 10.0 | 72.00 |
| 54 | Deepeshwar | 210287 | B | 10.0 | 14.0 | 28.0 | 9.25 | 61.25 |
| 55 | Burugupalli Sai Chaitanya | 210288 | A | 14.0 | 16.0 | 32.0 | 11.0 | 73.00 |
| 56 | SIMRAN SAINI | 210292 | B | 12.0 | 14.0 | 28.0 | 7.25 | 61.25 |
| 57 | Bhanu pratap Singh | 210293 | B | 12.0 | 14.0 | 30.0 | 3.75 | 59.75 |
| 58 | Amit Pratap Singh | 210294 | C+ | 10.0 | 12.0 | 26.0 | 8.5 | 56.50 |
| 59 | Shreshtth Kumar Agarwaal | 210301 | B+ | 12.0 | 16.0 | 26.0 | 11.5 | 65.50 |
| 60 | Kanika Sharma | 210302 | B | 10.0 | 14.0 | 26.0 | 9.75 | 59.75 |
| 61 | Aaryan Bhardwaj | 210303 | C+ | 10.0 | 14.0 | 24.0 | 9.0 | 57.00 |
| 62 | Naman khandelwal | 210306 | A | 14.0 | 18.0 | 36.0 | 8.0 | 76.00 |
| 63 | Vivaan Sahai | 210318 | B | 10.0 | 14.0 | 28.0 | 9.0 | 61.00 |
| 64 | S Phanendra Krishna | 210322 | B+ | 14.0 | 18.0 | 32.0 | 7.0 | 71.00 |
| 65 | Aryaman Sital | 210323 | A | 16.0 | 18.0 | 34.0 | 10.0 | 78.00 |
| 66 | Ayush Agarwal | 210328 | B+ | 14.0 | 10.0 | 28.0 | 13.5 | 65.50 |
| 67 | Himanshu | 210329 | B | 12.0 | 14.0 | 28.0 | 7.0 | 61.00 |
| 68 | Mukul Yadav | 210349 | C+ | 10.0 | 14.0 | 26.0 | 6.25 | 56.25 |
| 69 | Naman Jain | 210350 | A | 14.0 | 16.0 | 36.0 | 8.5 | 74.50 |
| 70 | Harsh Singh | 210351 | C | 10.0 | 12.0 | 24.0 | 6.75 | 52.75 |
| 71 | Sarthak Jindal | 210352 | B+ | 14.0 | 16.0 | 30.0 | 7.5 | 67.50 |
| 72 | Palak Gupta | 210353 | B+ | 12.0 | 13.0 | 28.0 | 11.5 | 64.50 |
| 73 | Aanchal Sharma | 210354 | A | 14.0 | 16.0 | 30.0 | 13.5 | 73.50 |
| 74 | Shivam Gupta | 210361 | C+ | 10.0 | 12.0 | 28.0 | 7.25 | 57.25 |
| 75 | Pranjal Mishra | 210362 | B+ | 14.0 | 12.0 | 28.0 | 10.75 | 64.75 |

22

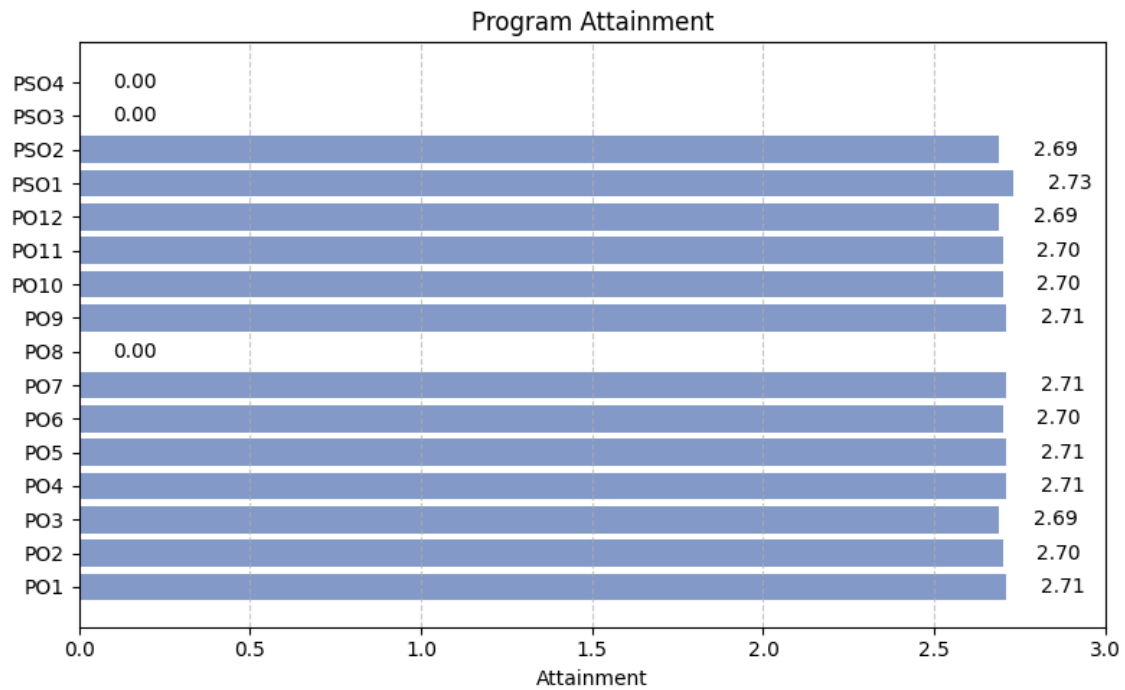| 76 | Kriti Banka | 210363 | B | 12.0 | 14.0 | 28.0 | 5.5 | 59.50 |
| 77 | SHAIK CHUSHMA | 210404 | B+ | 12.0 | 14.0 | 30.0 | 9.0 | 65.00 |
| 78 | Sidharth Aggarwal | 210409 | B+ | 12.0 | 16.0 | 32.0 | 10.5 | 70.50 |
| 79 | Unnati Gupta | 210517 | A | 16.0 | 16.0 | 30.0 | 11.25 | 73.25 |
| 80 | Yash Verma | 210537 | B+ | 14.0 | 16.0 | 28.0 | 10.25 | 68.25 |
| 81 | Abdul Ahad | 210228 | A | 14.0 | 16.0 | 34.0 | 9.0 | 73.00 |
| 82 | ekansh sharma | 210259 | B+ | 12.0 | 13.0 | 30.0 | 14.5 | 69.50 |
| 83 | lavanya Anand | 210285 | B+ | 14.0 | 16.0 | 30.0 | 9.25 | 69.25 |
| 84 | Mubashir Buhari | 210407 | A | 16.0 | 18.0 | 36.0 | 6.75 | 76.75 |
| 85 | Siri Sujala Gontu | 210410 | A+ | 18.0 | 18.0 | 36.0 | 10.5 | 82.50 |
| 86 | Hriday Kapadia | 210414 | B | 10.0 | 12.0 | 30.0 | 10.0 | 62.00 |
| 87 | Priyansh Jain | 210415 | B+ | 12.0 | 16.0 | 28.0 | 8.75 | 64.75 |
| 88 | Kumkum Mittal | 210425 | A+ | 16.0 | 18.0 | 36.0 | 11.0 | 81.00 |
| 89 | Adarsh Wadal | 210427 | B+ | 12.0 | 14.0 | 30.0 | 9.75 | 65.75 |
| 90 | Dhruv Gupta | 210436 | B | 12.0 | 14.0 | 26.0 | 8.25 | 60.25 |
| 91 | Chandan Dhingra | 210439 | B | 12.0 | 12.0 | 28.0 | 9.0 | 61.00 |
| 92 | Tejender | 210444 | C+ | 10.0 | 12.0 | 28.0 | 9.0 | 59.00 |
| 93 | Riya Jain | 210447 | A | 16.0 | 18.0 | 36.0 | 8.25 | 78.25 |
| 94 | Akshat Manohar | 210448 | B | 12.0 | 16.0 | 28.0 | 6.75 | 62.75 |
| 95 | Ashi Jain | 210451 | C | 12.0 | 15.0 | 26.0 | 3.0 | 56.00 |
| 96 | Prasoon Kumar | 210452 | B | 12.0 | 14.0 | 28.0 | 8.25 | 62.25 |
| 97 | Vivek Kumar | 210457 | B | 14.0 | 14.0 | 30.0 | 6.0 | 64.00 |
| 98 | Ritik Data | 210461 | B | 12.0 | 14.0 | 28.0 | 7.0 | 61.00 |
| 99 | Sreerama Rama Sai Mehar | 210464 | B+ | 14.0 | 16.0 | 30.0 | 7.0 | 67.00 |
| 100 | Vansh Saini | 210465 | B | 12.0 | 14.0 | 28.0 | 6.75 | 60.75 |
| 101 | Priyanshu Yadav | 210468 | C | 10.0 | 14.0 | 26.0 | 6.0 | 56.00 |
| 102 | Ridit Jain | 210471 | A | 14.0 | 16.0 | 34.0 | 10.75 | 74.75 |
| 103 | Mudipalli Nomesh | 210476 | B+ | 14.0 | 16.0 | 30.0 | 8.0 | 68.00 |
| 104 | Ayush Aryan | 210477 | B | 10.0 | 14.0 | 28.0 | 7.75 | 59.75 |
| 105 | Prashant | 210479 | C | 10.0 | 12.0 | 26.0 | 6.5 | 54.50 |
| 106 | Kothapalli Sravyanth | 210480 | B | 14.0 | 12.0 | 28.0 | 6.5 | 60.50 |
| 107 | Mandiga Chetan Srikant | 210482 | C | 10.0 | 12.0 | 28.0 | 4.75 | 54.75 |
| 108 | Abhay Singla | 210484 | C+ | 10.0 | 13.0 | 24.0 | 11.0 | 58.00 |
| 109 | Dhruv Goel | 210489 | B+ | 14.0 | 14.0 | 28.0 | 10.5 | 66.50 |
| 110 | Himanshu Sharma | 210495 | C+ | 10.0 | 14.0 | 28.0 | 6.5 | 58.50 |
| 111 | Vishav Garg | 210519 | C+ | 10.0 | 14.0 | 30.0 | 4.0 | 58.00 |
| 112 | Ankur Kaushal | 210526 | A+ | 14.0 | 18.0 | 34.0 | 13.25 | 79.25 |
| 113 | Alluri Ajay Reddy | 210528 | C | 10.0 | 10.0 | 28.0 | 6.0 | 54.00 |
| 114 | Deepak Bhatt | 210534 | B+ | 14.0 | 14.0 | 30.0 | 10.5 | 68.50 |
| 115 | Chandan Jindal | 210540 | B+ | 14.0 | 14.0 | 30.0 | 6.5 | 64.50 |
| 116 | Saurabh Kumar | 210547 | B | 12.0 | 14.0 | 30.0 | 7.0 | 63.00 |
| 117 | Aditya Sahu | 210548 | B+ | 16.0 | 14.0 | 30.0 | 4.5 | 64.50 |
| 118 | Govind Ram Tripathi | 200153 | B | 12.0 | 12.0 | 28.0 | 7.25 | 59.25 |

## 12. CO Attainment Analysis

### CO Attainment Summary

| Course Outcomes | CO1 | CO2 | CO3 |
|---|---|---|---|
| Weights | 35.00% | 25.00% | 40.00% |
| No. of students scored greater than 3 | 87 | 84 | 82 |
| Percentage of students scored greater than 3 | 73.73% | 71.19% | 69.49% |
| Attainment Level | 3 | 2 | 2 |
| **Overall Course Attainment** | **2.3333** | | |



Percentage of Students Scored ≥ 3

CO3 — 69.49%
CO2 — 71.19%
CO1 — 73.73%

Percentage (%)

## Program Attainment

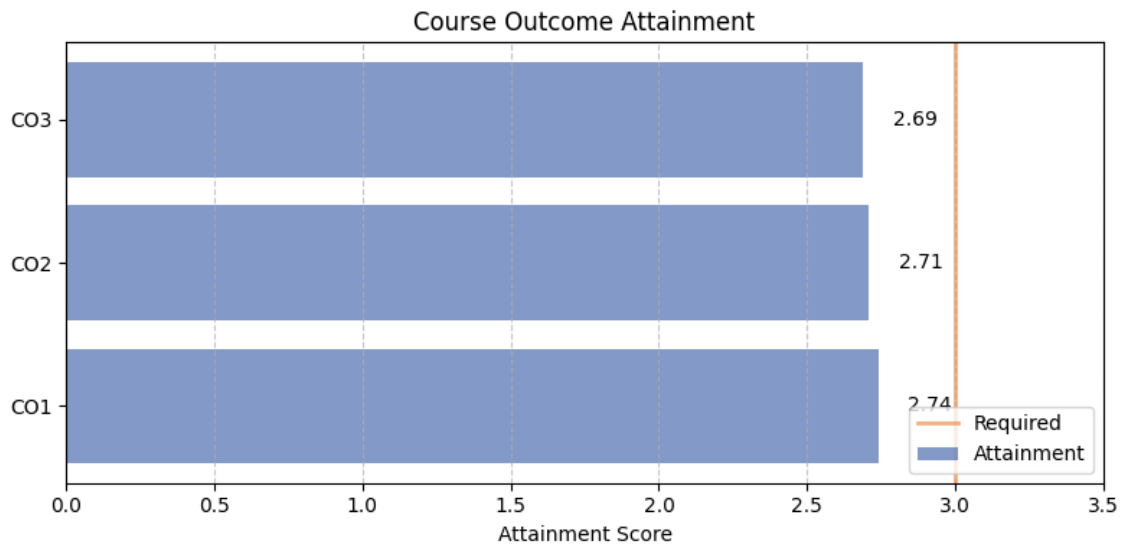| Program Outcomes | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Program Attainment | 2.71 | 2.70 | 2.69 | 2.71 | 2.71 | 2.70 | 2.71 | 0.00 | 2.71 | 2.70 | 2.70 | 2.69 | 2.73 | 2.69 | 0.00 | 0.00 |



Program Attainment

## Student-wise CO Achievement

| NAME | CO1 Score | CO2 Score | CO3 Score |
|---|---|---|---|
| Siddharth Singh Sud | 2 | 2 | 2 |
| Aayush  Dubey | 3 | 3 | 3 |
| Rishita  Ojha | 2 | 2 | 2 |
| Pelleti Sujith Reddy | 3 | 3 | 3 |
| Akshay Kumar  Jain | 3 | 3 | 3 |
| Mallidi Sai Prabhas | 3 | 3 | 3 |
| Sivapuram Shanmukha Rahul | 3 | 3 | 3 |
| Vishal  Saharan | 2 | 2 | 2 |
| Subhranshu  Behura | 3 | 3 | 3 |
| Anushka   Pandey | 3 | 3 | 3 |
| Shashank  Goswami | 2 | 2 | 2 |
| ARHAM  ALAM | 3 | 3 | 3 |
| Thotakura Sriram Varma | 3 | 3 | 3 |
| NIPUN  RAJPUT | 3 | 3 | 3 |
| Avi  Vyas | 3 | 3 | 3 |
| Kartik  Agarwala | 3 | 3 | 3 |
| Vardaan | 2 | 2 | 2 |
| Japesh  Goyal | 3 | 3 | 3 |
| M Mahaansh Reddy | 2 | 2 | 2 |
| Ketan  Thakur | 3 | 3 | 3 |
| Godavarthi Sai Nikhil | 3 | 3 | 3 |
| SYED MOHD  ABID | 3 | 3 | 3 |
| Jangili Sai Nishith | 3 | 3 | 3 |
| Velumuri Suresh Raj | 3 | 3 | 3 |
| Shreya  Rustagi | 3 | 3 | 3 |
| Anoushka Srivastava | 3 | 3 | 2 |
| NICHENAMETLA  KARTHIK RAJA | 3 | 3 | 3 |
| Milind   Jain | 3 | 3 | 3 |
| Dasariraju Deepak | 3 | 3 | 3 |
| Aditi Singh | 2 | 2 | 3 |
| Pulkit  Yadav | 2 | 2 | 2 |
| Devender  Kumar | 2 | 2 | 2 |
| Dyuti  Dasmahapatra | 2 | 2 | 2 |
| Mohammed Ayan Yezdani | 3 | 2 | 2 |
| Sahil | 2 | 2 | 2 |
| Pallav  Jain | 3 | 3 | 3 |
| Visarapu Rajeswari | 3 | 3 | 3 |
| Aksh  Gupta | 3 | 3 | 3 |
| Ashish  Nagal | 2 | 2 | 2 |
| abhimanyu  gulati | 2 | 2 | 2 |
| Harshita  Bansal | 2 | 3 | 3 |
| Bhaskar Vivek Agarwal | 3 | 3 | 3 |
| Jazlyn  Jose | 3 | 3 | 3 |
| Akshita  Singh | 3 | 3 | 3 |
| Priyansh  Tyagi | 3 | 3 | 3 |
| Parinita  Singh | 3 | 3 | 3 |
| Vandamasu Sai Sumanth | 3 | 3 | 3 |
| D  VEERA  HARSHA VARDHAN | 3 | 3 | 3 |

| | | | |
|---|---|---|---|
| REDDY | | | |
| Soum  Nag | 3 | 3 | 3 |
| Nihar Ranjan  Murudi | 3 | 2 | 2 |
| D M V S V Karthik Jayanthi | 3 | 3 | 3 |
| Kodati Jaideep | 3 | 3 | 3 |
| Mrinal  Kanti Mishra | 3 | 3 | 3 |
| Deepeshwar | 3 | 3 | 3 |
| Burugupalli Sai Chaitanya | 3 | 3 | 3 |
| SIMRAN  SAINI | 3 | 3 | 3 |
| Bhanu pratap  Singh | 3 | 2 | 2 |
| Amit Pratap  Singh | 2 | 2 | 2 |
| Shreshtth Kumar Agarwaal | 3 | 3 | 3 |
| Kanika  Sharma | 2 | 2 | 2 |
| Aaryan  Bhardwaj | 2 | 2 | 2 |
| Naman  khandelwal | 3 | 3 | 3 |
| Vivaan  Sahai | 3 | 3 | 3 |
| S Phanendra Krishna | 3 | 3 | 3 |
| Aryaman  Sital | 3 | 3 | 3 |
| Ayush  Agarwal | 3 | 3 | 3 |
| Himanshu | 3 | 3 | 3 |
| Mukul  Yadav | 2 | 2 | 2 |
| Naman  Jain | 3 | 3 | 3 |
| Harsh Singh | 2 | 2 | 2 |
| Sarthak  Jindal | 3 | 3 | 3 |
| Palak  Gupta | 3 | 3 | 3 |
| Aanchal  Sharma | 3 | 3 | 3 |
| Shivam  Gupta | 2 | 2 | 2 |
| Pranjal  Mishra | 3 | 3 | 3 |
| Kriti  Banka | 3 | 2 | 2 |
| SHAIK CHUSHMA | 3 | 3 | 3 |
| Sidharth  Aggarwal | 3 | 3 | 3 |
| Unnati  Gupta | 3 | 3 | 3 |
| Yash  Verma | 3 | 3 | 3 |
| Abdul  Ahad | 3 | 3 | 3 |
| ekansh  sharma | 3 | 3 | 3 |
| lavanya  Anand | 3 | 3 | 3 |
| Mubashir Buhari | 3 | 3 | 3 |
| Siri Sujala  Gontu | 3 | 3 | 3 |
| Hriday  Kapadia | 3 | 3 | 3 |
| Priyansh  Jain | 3 | 3 | 3 |
| Kumkum  Mittal | 3 | 3 | 3 |
| Adarsh Wadal | 3 | 3 | 3 |
| Dhruv  Gupta | 3 | 3 | 2 |
| Chandan  Dhingra | 3 | 3 | 3 |
| Tejender | 2 | 2 | 3 |
| Riya  Jain | 3 | 3 | 3 |
| Akshat  Manohar | 3 | 3 | 3 |
| Ashi  Jain | 2 | 2 | 2 |
| Prasoon  Kumar | 3 | 3 | 3 |
| Vivek Kumar | 3 | 3 | 3 |
| Ritik  Data | 3 | 3 | 3 |

| | | | |
|---|---|---|---|
| Sreerama Rama Sai Mehar | 3 | 3 | 3 |
| Vansh  Saini | 3 | 3 | 2 |
| Priyanshu  Yadav | 2 | 2 | 2 |
| Ridit  Jain | 3 | 3 | 3 |
| Mudipalli Nomesh | 3 | 3 | 3 |
| Ayush Aryan | 2 | 2 | 2 |
| Prashant | 2 | 2 | 2 |
| Kothapalli Sravyanth | 3 | 3 | 2 |
| Mandiga Chetan   Srikant | 2 | 2 | 2 |
| Abhay  Singla | 2 | 2 | 2 |
| Dhruv Goel | 3 | 3 | 3 |
| Himanshu  Sharma | 2 | 2 | 2 |
| Vishav  Garg | 2 | 2 | 2 |
| Ankur Kaushal | 3 | 3 | 3 |
| Alluri Ajay Reddy | 2 | 2 | 2 |
| Deepak  Bhatt | 3 | 3 | 3 |
| Chandan  Jindal | 3 | 3 | 3 |
| Saurabh  Kumar | 3 | 3 | 3 |
| Aditya  Sahu | 3 | 3 | 3 |
| Govind Ram Tripathi | 2 | 2 | 2 |
| **Average** | **2.74** | **2.71** | **2.69** |



Course Outcome Attainment

## 13. Student Learning Categories for Partial Semester

### Learner Categories Summary for Partial Semester

| Learner Category | Number of Students |
|---|---|
| Advanced Learners | 0 |
| Medium Learners | 118 |
| Low Performers | 0 |

### Student Learning Classification for Partial Semester

| Student Name | Category |
|---|---|
| Siddharth Singh Sud | Medium Learner |
| Aayush  Dubey | Medium Learner |
| Rishita  Ojha | Medium Learner |
| Pelleti Sujith Reddy | Medium Learner |
| Akshay Kumar  Jain | Medium Learner |
| Mallidi Sai Prabhas | Medium Learner |
| Sivapuram Shanmukha Rahul | Medium Learner |
| Vishal  Saharan | Medium Learner |
| Subhranshu  Behura | Medium Learner |
| Anushka  Pandey | Medium Learner |
| Shashank  Goswami | Medium Learner |
| ARHAM  ALAM | Medium Learner |
| Thotakura Sriram Varma | Medium Learner |
| NIPUN  RAJPUT | Medium Learner |
| Avi  Vyas | Medium Learner |
| Kartik  Agarwala | Medium Learner |
| Vardaan | Medium Learner |
| Japesh  Goyal | Medium Learner |
| M Mahaansh Reddy | Medium Learner |
| Ketan  Thakur | Medium Learner |
| Godavarthi Sai Nikhil | Medium Learner |
| SYED MOHD  ABID | Medium Learner |
| Jangili Sai Nishith | Medium Learner |
| Velumuri Suresh Raj | Medium Learner |
| Shreya  Rustagi | Medium Learner |
| Anoushka Srivastava | Medium Learner |
| NICHENAMETLA  KARTHIK RAJA | Medium Learner |
| Milind  Jain | Medium Learner |
| Dasariraju Deepak | Medium Learner |
| Aditi Singh | Medium Learner |
| Pulkit  Yadav | Medium Learner |
| Devender  Kumar | Medium Learner |
| Dyuti  Dasmahapatra | Medium Learner |
| Mohammed Ayan Yezdani | Medium Learner |
| Sahil | Medium Learner |
| Pallav  Jain | Medium Learner |
| Visarapu Rajeswari | Medium Learner |
| Aksh  Gupta | Medium Learner |
| Ashish  Nagal | Medium Learner |
| abhimanyu  gulati | Medium Learner |
| Harshita  Bansal | Medium Learner |

| | |
|---|---|
| Bhaskar Vivek Agarwal | Medium Learner |
| Jazlyn  Jose | Medium Learner |
| Akshita  Singh | Medium Learner |
| Priyansh  Tyagi | Medium Learner |
| Parinita  Singh | Medium Learner |
| Vandamasu Sai Sumanth | Medium Learner |
| D  VEERA  HARSHA VARDHAN REDDY | Medium Learner |
| Soum  Nag | Medium Learner |
| Nihar Ranjan  Murudi | Medium Learner |
| D M V S V Karthik Jayanthi | Medium Learner |
| Kodati Jaideep | Medium Learner |
| Mrinal  Kanti Mishra | Medium Learner |
| Deepeshwar | Medium Learner |
| Burugupalli Sai Chaitanya | Medium Learner |
| SIMRAN  SAINI | Medium Learner |
| Bhanu pratap  Singh | Medium Learner |
| Amit Pratap  Singh | Medium Learner |
| Shreshtth Kumar Agarwaal | Medium Learner |
| Kanika  Sharma | Medium Learner |
| Aaryan  Bhardwaj | Medium Learner |
| Naman  khandelwal | Medium Learner |
| Vivaan  Sahai | Medium Learner |
| S Phanendra Krishna | Medium Learner |
| Aryaman  Sital | Medium Learner |
| Ayush  Agarwal | Medium Learner |
| Himanshu | Medium Learner |
| Mukul  Yadav | Medium Learner |
| Naman  Jain | Medium Learner |
| Harsh Singh | Medium Learner |
| Sarthak  Jindal | Medium Learner |
| Palak  Gupta | Medium Learner |
| Aanchal  Sharma | Medium Learner |
| Shivam  Gupta | Medium Learner |
| Pranjal  Mishra | Medium Learner |
| Kriti  Banka | Medium Learner |
| SHAIK CHUSHMA | Medium Learner |
| Sidharth  Aggarwal | Medium Learner |
| Unnati  Gupta | Medium Learner |
| Yash  Verma | Medium Learner |
| Abdul  Ahad | Medium Learner |
| ekansh  sharma | Medium Learner |
| lavanya  Anand | Medium Learner |
| Mubashir Buhari | Medium Learner |
| Siri Sujala  Gontu | Medium Learner |
| Hriday  Kapadia | Medium Learner |
| Priyansh  Jain | Medium Learner |
| Kumkum  Mittal | Medium Learner |
| Adarsh Wadal | Medium Learner |
| Dhruv  Gupta | Medium Learner |
| Chandan  Dhingra | Medium Learner |
| Tejender | Medium Learner |
| Riya  Jain | Medium Learner |
| Akshat  Manohar | Medium Learner |
| Ashi  Jain | Medium Learner |
| Prasoon  Kumar | Medium Learner |
| Vivek Kumar | Medium Learner |
| Ritik  Data | Medium Learner |

| | |
|---|---|
| Sreerama Rama Sai Mehar | Medium Learner |
| Vansh  Saini | Medium Learner |
| Priyanshu  Yadav | Medium Learner |
| Ridit  Jain | Medium Learner |
| Mudipalli Nomesh | Medium Learner |
| Ayush Aryan | Medium Learner |
| Prashant | Medium Learner |
| Kothapalli Sravyanth | Medium Learner |
| Mandiga Chetan   Srikant | Medium Learner |
| Abhay  Singla | Medium Learner |
| Dhruv Goel | Medium Learner |
| Himanshu  Sharma | Medium Learner |
| Vishav  Garg | Medium Learner |
| Ankur Kaushal | Medium Learner |
| Alluri Ajay Reddy | Medium Learner |
| Deepak  Bhatt | Medium Learner |
| Chandan  Jindal | Medium Learner |
| Saurabh  Kumar | Medium Learner |
| Aditya  Sahu | Medium Learner |
| Govind Ram Tripathi | Medium Learner |

# 13. Student Learning Categories

## Learner Categories Summary

| Learner Category | Number of Students |
| --- | --- |
| Advanced Learners | 0 |
| Medium Learners | 118 |
| Slow Learners | 0 |

## Student Learning Classification

| Student Name | Category |
| --- | --- |
| Siddharth Singh Sud | Medium Learner |
| Aayush  Dubey | Medium Learner |
| Rishita  Ojha | Medium Learner |
| Pelleti Sujith Reddy | Medium Learner |
| Akshay Kumar  Jain | Medium Learner |
| Mallidi Sai Prabhas | Medium Learner |
| Sivapuram Shanmukha Rahul | Medium Learner |
| Vishal  Saharan | Medium Learner |
| Subhranshu  Behura | Medium Learner |
| Anushka  Pandey | Medium Learner |
| Shashank  Goswami | Medium Learner |
| ARHAM  ALAM | Medium Learner |
| Thotakura Sriram Varma | Medium Learner |
| NIPUN  RAJPUT | Medium Learner |
| Avi  Vyas | Medium Learner |
| Kartik  Agarwala | Medium Learner |
| Vardaan | Medium Learner |
| Japesh  Goyal | Medium Learner |
| M Mahaansh Reddy | Medium Learner |
| Ketan  Thakur | Medium Learner |
| Godavarthi Sai Nikhil | Medium Learner |
| SYED MOHD  ABID | Medium Learner |
| Jangili Sai Nishith | Medium Learner |
| Velumuri Suresh Raj | Medium Learner |
| Shreya  Rustagi | Medium Learner |
| Anoushka Srivastava | Medium Learner |
| NICHENAMETLA  KARTHIK RAJA | Medium Learner |
| Milind  Jain | Medium Learner |
| Dasariraju Deepak | Medium Learner |
| Aditi Singh | Medium Learner |
| Pulkit  Yadav | Medium Learner |
| Devender  Kumar | Medium Learner |
| Dyuti  Dasmahapatra | Medium Learner |
| Mohammed Ayan Yezdani | Medium Learner |
| Sahil | Medium Learner |
| Pallav  Jain | Medium Learner |
| Visarapu Rajeswari | Medium Learner |
| Aksh  Gupta | Medium Learner |
| Ashish  Nagal | Medium Learner |
| abhimanyu  gulati | Medium Learner |
| Harshita  Bansal | Medium Learner |

| | |
|---|---|
| Bhaskar Vivek Agarwal | Medium Learner |
| Jazlyn  Jose | Medium Learner |
| Akshita  Singh | Medium Learner |
| Priyansh  Tyagi | Medium Learner |
| Parinita  Singh | Medium Learner |
| Vandamasu Sai Sumanth | Medium Learner |
| D  VEERA  HARSHA VARDHAN REDDY | Medium Learner |
| Soum  Nag | Medium Learner |
| Nihar Ranjan  Murudi | Medium Learner |
| D M V S V Karthik Jayanthi | Medium Learner |
| Kodati Jaideep | Medium Learner |
| Mrinal  Kanti Mishra | Medium Learner |
| Deepeshwar | Medium Learner |
| Burugupalli Sai Chaitanya | Medium Learner |
| SIMRAN  SAINI | Medium Learner |
| Bhanu pratap  Singh | Medium Learner |
| Amit Pratap  Singh | Medium Learner |
| Shreshtth Kumar Agarwaal | Medium Learner |
| Kanika  Sharma | Medium Learner |
| Aaryan  Bhardwaj | Medium Learner |
| Naman  khandelwal | Medium Learner |
| Vivaan  Sahai | Medium Learner |
| S Phanendra Krishna | Medium Learner |
| Aryaman  Sital | Medium Learner |
| Ayush  Agarwal | Medium Learner |
| Himanshu | Medium Learner |
| Mukul  Yadav | Medium Learner |
| Naman  Jain | Medium Learner |
| Harsh Singh | Medium Learner |
| Sarthak  Jindal | Medium Learner |
| Palak  Gupta | Medium Learner |
| Aanchal  Sharma | Medium Learner |
| Shivam  Gupta | Medium Learner |
| Pranjal  Mishra | Medium Learner |
| Kriti  Banka | Medium Learner |
| SHAIK CHUSHMA | Medium Learner |
| Sidharth  Aggarwal | Medium Learner |
| Unnati  Gupta | Medium Learner |
| Yash  Verma | Medium Learner |
| Abdul  Ahad | Medium Learner |
| ekansh  sharma | Medium Learner |
| lavanya  Anand | Medium Learner |
| Mubashir Buhari | Medium Learner |
| Siri Sujala  Gontu | Medium Learner |
| Hriday  Kapadia | Medium Learner |
| Priyansh  Jain | Medium Learner |
| Kumkum  Mittal | Medium Learner |
| Adarsh Wadal | Medium Learner |
| Dhruv  Gupta | Medium Learner |
| Chandan  Dhingra | Medium Learner |
| Tejender | Medium Learner |
| Riya  Jain | Medium Learner |
| Akshat  Manohar | Medium Learner |
| Ashi  Jain | Medium Learner |
| Prasoon  Kumar | Medium Learner |
| Vivek Kumar | Medium Learner |
| Ritik  Data | Medium Learner |

| | |
|---|---|
| Sreerama Rama Sai Mehar | Medium Learner |
| Vansh  Saini | Medium Learner |
| Priyanshu  Yadav | Medium Learner |
| Ridit  Jain | Medium Learner |
| Mudipalli Nomesh | Medium Learner |
| Ayush Aryan | Medium Learner |
| Prashant | Medium Learner |
| Kothapalli Sravyanth | Medium Learner |
| Mandiga Chetan   Srikant | Medium Learner |
| Abhay  Singla | Medium Learner |
| Dhruv Goel | Medium Learner |
| Himanshu  Sharma | Medium Learner |
| Vishav  Garg | Medium Learner |
| Ankur Kaushal | Medium Learner |
| Alluri Ajay Reddy | Medium Learner |
| Deepak  Bhatt | Medium Learner |
| Chandan  Jindal | Medium Learner |
| Saurabh  Kumar | Medium Learner |
| Aditya  Sahu | Medium Learner |
| Govind Ram Tripathi | Medium Learner |

## 14. Actions taken for weak students

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## 15. Student Feedback

**Quantitative Feedback:**

Average Rating: 0.00/5