



CHARUSAT
CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY

**FEEDBACK ANALYSIS
REPORT
OF STAKEHOLDERS
(2022-23)**

CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY
Chandubhai S Patel Institute of Technology
CHAMOS Matrusantha Department of Mechanical Engineering
CURRICULUM FEEDBACK ANALYSIS (Students)

Academic Year: 2022-23

Date: 21/08/2023

Scale – Highly Adequate: 5, Adequate: 4, Neutral: 3, Inadequate: 2, Highly Inadequate: 1

Sr. No.	Aspect	Highly Adequate (A)	Adequate (B)	Neutral (C)	Inadequate (D)	Highly Inadequate (E)	Average	% Response
1	The content of the syllabus (Whether adequate enough to meet the learning objectives listed)	44	29	11	2	3	4.23	84.61
2	the time allocated for completing the syllabus	42	30	10	4	2	4.18	83.69
3	The practical components included in the curriculum (if applicable)	38	30	15	3	3	4.10	82.14
4	The references listed in the curriculum	41	34	10	2	3	4.19	83.86

Average = $(A*5 + B*4 + C*3 + D*2 + E*1)/\text{Total no. of responses}$,

Total No. of Responses: 89

% Response = $(\text{Average} * 100) / 5$

Other Comments/Suggestions:

- Include more industry visits and seminars by people working in the industry as it will open more learning opportunities for students related to latest trends.
- In automation and robotics subject more practical approach is needed to understand function of each aspects.




CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY
Chandubhai S Patel Institute of Technology
CHAMOS Matrusantha Department of Mechanical Engineering
CURRICULUM FEEDBACK ANALYSIS (Alumni)

Academic Year: 2022-23

Date: 21/08/2023

Scale – Excellent: 5, Very Good: 4, Good: 3, Satisfactory: 2, Poor: 1

Sr. No.	Aspect	Excellent (A)	Very Good (B)	Good (C)	Satisfactory (D)	Poor (E)	Average	% Response
1	Learning value of the curriculum (in terms of skills, concepts, knowledge, analytical abilities, or broadening perspectives)	16	8	0	0	0	4.66	93.33
2	Curriculum Applicability/relevance to real life situations	10	10	4	0	0	4.25	85
3	Depth of the course content	13	11	0	0	0	4.54	90.83
4	Extent of coverage of course	13	10	1	0	0	4.5	90
5	Curriculum Relevance/learning value of project/ report	15	9	0	0	0	4.62	92.5

Total No. of Responses: 24

Average = $(A*5 + B*4 + C*3 + D*2 + E*1)/\text{Total no. of responses}$

% Response = $(\text{Average} * 100)/5$

Other Comments/Suggestions:

- Alumni magazines and newsletters etc.

CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY
Chandubhai S Patel Institute of Technology
CHAMOS Matrusantha Department of Mechanical Engineering
CURRICULUM FEEDBACK ANALYSIS (Academic Peers)

Academic Year: 2022-23

Date: 21/08/2023

Scale – Excellent: 5, Very Good: 4, Good: 3, Satisfactory: 2, Poor: 1

Sr. No.	Aspect	Excellent (A)	Very Good (B)	Good (C)	Satisfactory (D)	Poor (E)	Average	% Response
1	Content of syllabus	12	2	2	0	0	4.62	92.5
2	Relevance of syllabus to industry/research requirements	11	4	1	0	0	4.62	92.5
3	Course outcomes are well defined	14	2	0	0	0	4.87	97.5
4	Sufficient reading materials and digital resources provided	12	4	0	0	0	4.75	95
5	Incorporation of advanced topics	8	6	1	1	0	4.31	86.25
6	Pedagogy proposed have a desired balance between theory and practical	11	4	1	0	0	4.62	92.5
7	Assessment methods are fair, measuring the outcomes	15	1	0	0	0	4.93	98.75
8	Project component in the course, if applicable	6	5	0	0	0	4.54	90.90
9	Industrial training/practical exposure in the course, if applicable	6	3	1	0	0	4.5	90

Total No. of Responses: 16

Average = $(A*5 + B*4 + C*3 + D*2 + E*1)/\text{Total no. of responses}$

% Response = $(\text{Average} * 100)/5$

Other Comments/Suggestions:

1. GA & PSO need to be involved in Optimization Techniques.
2. The syllabus of DCMD is very lengthy. More lab hours can be allocated.
3. AICTE based model curriculum for material science and metallurgy should be incorporated.
4. Reduce the weightage for characterization of materials and utilize that for synthesis techniques of various composite materials.

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CHAMOS Matrusantha Department of Mechanical Engineering
CURRICULUM FEEDBACK ANALYSIS (Employers)

Academic Year: 2022-23

Date: 21/08/2023

Sr. No	Criteria	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Average	% Response
1	Technical knowledge and skills of the graduate(s) are up to date.	0	2	0	0	0	4.0	80.0
2	Curriculum provides adequate knowledge and training to the students.	0	1	1	0	0	3.5	70.0
3	Curriculum has rich content which ensures problem solving, leadership & managerial skills.	1	1	0	0	0	4.5	90.0
4	Students maintain good interpersonal relations with their colleagues and seniors	0	1	1	0	0	3.5	70.0
5	Students volunteer themselves for new initiatives of organization	1	1	0	0	0	4.5	90.0
6	The graduate(s) mould themselves as per need of organization.	1	1	0	0	0	4.5	90.0
7	Curriculum facilitated the graduate(s) to attain the desired competency level.	0	0	2	0	0	3.0	60.0
8	Curriculum enriched the moral values among the graduate(s).	0	1	1	0	0	3.5	70.0
9	Curriculum transaction sensitized them about team work	0	2	0	0	0	4.0	80.0
10	Communication skills of the students are good	0	2	0	0	0	4.0	80.0

Scale – Excellent: 5, Very Good: 4, Good: 3, Satisfactory: 2, Poor:

Average = $(A*5 + B*4 + C*3 + D*2 + E*1) / \text{Total no. of responses}$, Total No. of Responses: 2

% Response = $(\text{Average} * 100) / 5$

CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY
Chandubhai S Patel Institute of Technology
CHAMOS Matrusantha Department of Mechanical Engineering

Other Comments/Suggestions: Labour Management

EXIT FEEDBACK ANALYSIS (Students)

Academic Year: 2022-23

Date: 21/08/2023

Sr. No.	Aspect	Excellent (A)	Very Good (B)	Good (C)	Satisfactory (D)	Poor (E)	Average	% Response
Curricular Aspects								
1	Curriculum developed and implemented has relevance to local, national, regional and global development needs.	32	26	23	6	1	3.86	77.27
2	Curriculum was broad enough to prepare you for career of choice.	30	31	19	7	1	3.85	77.05
3	Curriculum integrates crosscutting issues relevant to professional ethics, gender, human values, environment and sustainability.	33	29	22	4	0	3.99	79.77
4	The learning was supplemented by co-curricular activities such as coursework outside the curriculum, project work, internships, workshops, conference, symposia etc.	40	22	18	6	2	3.98	79.55
Teaching-Learning and Evaluation								
1	Audio-visual learning resources provided by teachers facilitated you to improve learning.	35	32	15	3	3	4.02	80.45
2	Reading material and other learning resources provided by teachers facilitated you to improve learning.	39	19	20	9	1	3.88	77.50
3	Hands-on practice in laboratories and project work facilitated in overall development, inculcating skills and time management.	32	30	16	8	2	3.84	76.82

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4	Academic activities facilitate you to improve experiential learning, participative learning and problem solving methodology.	36	30	13	7	2	3.95	79.09
5	Evaluation pattern (Unit Test, Assignment, and Presentation) made you capable of analyzing your strength & weakness, and empowered you to use resources effectively.	39	28	16	4	1	4.09	81.82
6	The overall experience would help you to engage in independent and life-long learning in the broadest context of technological change.	35	30	16	5	2	3.98	79.55
Research and Extension Activities								
1	Institution has an eco-system to promote research and other initiatives for creation and transfer of knowledge.	41	23	15	9	0	3.99	79.77
2	Institution has adequate facility to carry out research.	36	25	21	5	1	3.97	79.32
3	Workshops/seminars on research methodology, Intellectual Property Rights (IPR), entrepreneurship, skill development are organized regularly.	35	22	22	6	3	3.84	76.82
4	Activities with social relevance (NCC/ NSS/ CHRF/ CHARUSAT Rural Education etc) are conducted regularly.	37	27	17	6	1	3.99	79.77
Infrastructure and Learning Resources								
1	The institute has adequate facilities for Teaching – learning viz. audiovisual amenities, classrooms, laboratories.	40	22	20	6	0	4.02	80.45
2	The institute has adequate facilities for Cultural activities, yoga, games (Indoor and outdoor), sports and gymnasium	37	28	16	6	1	4.00	80.00

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3	The institute has adequate LAN, WiFi and Internet Facility	32	19	20	10	7	3.56	71.14
4	The institute has adequate and hygienic canteen and food facilities.	34	28	18	6	2	3.91	78.18
5	Campus Ambience (Greenery, Environment friendly eco system, usage of solar lights, saving of electivity, production of electricity, working space) is pleasant.	44	26	14	4	0	4.20	84.09
6	Adequate learning resources are available in library.	39	25	18	5	1	4.03	80.68
Student support and progression								
1	Active student council exists and students are involved in activities for institutional development and student welfare.	36	26	18	5	3	3.93	78.64
2	Institution timely resolves the grievances including sexual harassment and ragging cases.	40	28	15	5	0	4.11	82.27
3	Counseling helped in assessing learning level of students, leading to customized attention to needy students.	40	25	13	8	2	3.97	79.32
4	Institution encourages and provides support to participate in national and international events.	35	28	15	7	3	3.89	77.73
5	Capacity development and skills enhancement activities are organized regularly.	38	23	18	8	1	3.92	78.41
6	Adequate support is provided by Career Development and Placement Cell (CDPC).	39	26	16	4	3	4.02	80.45
Governance and Leadership								
1	The effective and transparent leadership is reflected in various institutional policies/ practices.	38	23	18	9	0	3.92	78.41

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2	Management of Institution follows “Equal Opportunity” for all.	37	30	14	7	0	4.02	80.45
3	Institute felicitates achievement of students through various modes.	38	33	10	6	1	4.08	81.59

Scale – Excellent: 5, Very Good: 4, Good: 3, Satisfactory: 2, Poor: 1

Total No. of Responses: 88

Average = $(A*5 + B*4 + C*3 + D*2 + E*1) / \text{Total no. of responses}$

% Response = $(\text{Average} * 100) / 5$

Other Comments/Suggestions:

- Arrange more Career development seminar for final and pre final year students.

CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY
Chandubhai S Patel Institute of Technology
CHAMOS Matrusantha Department of Mechanical Engineering
INSTITUTE FEEDBACK ANALYSIS (Students)

Academic Year: 2022-23

Sr. No.	Question	Number of Responses	Average score (Out of 10.00)
1	Takes an active interest in promoting internship, student exchange, and field visit opportunities for students.	188	8.67
2	The teaching and mentoring process facilitates you in cognitive, social and emotional growth.	188	8.27
3	Provides multiple opportunities to learn and grow.	188	8.46
4	Makes an effort to engage students in the monitoring, review and continuous quality improvement of the teaching- learning process.	188	8.36
5	The overall quality of teaching-learning process is very good.	188	8.33
6	The percentage of teachers using ICT tools such as LCD projector, Multimedia, etc. while teaching.	188	8.59
7	The percentage of the syllabus covered in the class.	188	8.79

Other Comments/Suggestions:

- Paperless exam is not suitable for students to write properly as we need to calculate and draw the figures.
- Reading holiday should be provided proper as this time it is 4 days only.
- Avoid Attendance and give assignments instead
- Need more Industrial visit.
- Semester duration should increase.
- Topics should be taught by showing its real applications in our daily life. Should focus on practical learnings.
- More focus on practical rather than theory try to communicate with students make teaching a two way interaction.
- University give foreign internship And also more exchange program come in University.
- More emphasis on skill based learning and promoting entrepreneur skill needed.
- Duration of internship should be increase.
- Need to introduce department wise E-book program.

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Proposed Action based on feedback analysis

- Motivate the students to choose the industrial based project instead of in house project.
- Hydraulic and pneumatics subject offers separately in 5th semester.
- Micro project will be introduces in each subject to apply subject knowledge to the real life problem.
- Organize more industrial visit.
- Full semester project is assign in the 8th semester.





CHARUSAT
CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY

**FEEDBACK ACTION TAKEN
REPORT OF
STAKEHOLDERS
(2022-23)**

CHARUSAT

Date: 21st August 2023

Subject: Action Plan from various feedback received
Reference Department: Mechanical Engineering

Action plan from Feedback received from students

#	Suggestion	Action Plan
1	Include more industry visits and seminars by people working in the industry as it will open more learning opportunities for students related to latest trends.	For the final year students outstate industrial tour will be arranged. (Annexure 1) More expert talks and seminars will be conducted by industrial experts. (Annexure 2)
2	In automation and robotics subject more practical approach is needed to understand function of each aspect.	Minor project will be assigned to improve practical knowledge related to automation and robotics. (Annexure 3)

Action plan from Feedback received from Teachers (End semester course feedback)

#	Suggestion	Action Plan
1	GA need to be involved in Optimization Techniques.	Topic on GA is already added in curriculum of Optimization Techniques course.
2	The syllabus of DCMD is very lengthy. More lab hours can be allocated.	Extra practice hours are planned in the laboratory of DCMD course.
3	AICTE based model curriculum for material science and metallurgy should be incorporated.	--
4	Reduce the weightage for characterization of materials and utilize that for synthesis techniques of various composite materials.	In this course of Advanced Materials (ME761) the weightage of coatings is reduced and content on composite materials are added. (Annexure 4)

Action plan from Feedback received from Alumni

#	Suggestion	Action Plan
1	Alumni magazines and newsletters etc.	We are planning to prepare newsletters of Mechanical engineering department.

Action plan from Feedback received from exit survey

#	Suggestion	Action Plan
1	Arrange more Career development seminar for final and pre final year students.	Special aptitude sessions will be arranged for final and pre final year students. Seminars related to higher studies will be arranged. (Annexure 5)



Annexure 1

List of Industrial visit/tour organized by Mechanical Department during July 2023 to Dec 2023

Sr no.	Event Title	Event StartDate	Event End Date
1	Amul Chocolate Plant, Mogar	18-Jul-23	19-Jul-23
2	1. Industrial Metal Powders (India) Pvt. Ltd., 2. Incredible AM Pvt. Ltd., 3. Uno Minda Limited,Pune	25-Aug-23	28-Aug-23
3	1. Adani Ports & SEZ, Mundra 2. Adani Wilmer Ltd., Mundra 3. APSEZ West Port, Mundra 4. Adani Power Plant, Mundra	25-Sep-23	26-Sep-23
4	Suryadeep Alloy Steels Castings, Vitthal Udyognagar	14-Sep-23	14-Sep-23





CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY
(CHARUSAT)

Faculty of Technology and Engineering (FTE)
Commencement Celebration Program (A.Y. 2023-24)



Expert Session Report

Name of Session Coordinator: Dr. Sagar Chokshi and Mr. Vipul Vyas

Name of Department Coordinator: Dr.Hardik Modi,Mr.Rugnesh Patel, Ms.Neha Rajput, Mr.Jivanadhar Joshi,Mr.Mayur Makwana

Title of Session: Visit to Amul Chocolate Plant, Mogar

Date: 19/07/2023 **Slot:** 9:30 a.m. to 12:30 p.m. (CSPIT- EC, EE, ME and CL Branches)

Resource Person Detail:

Name of the resource person	Organization of resource person
-	Dr. Sagar Chokshi Mr. Vipul Vyas

Session Venue/Platform: Amul Chocolate Plant, Mogar.

Session Expenses: Not Applicable/-

Summary of Session:

The First Year Students were taken to the chocolate plant of Amul Company which was located in the Mogar. Around 145 students and 05 faculties with 10 student volunteers we went to the chocolate plant. All the students were instructed to gather at Central Lawn of CHARUSAT at 09:00 am. After that all the students were segregated into the group of 60 students and they were sent to the respective buses allocated to them. Each bus had two/one faculties and two student volunteers with them. They reached the chocolate plant around 10:30 am and after that one expert from the chocolate plant gave students a tour of the plant and showcased them all procedures of the plant. Following the tour, manager has explained to how do they work with failure, role of computer engineers in automation of plant and working environment of chocolate plant. The university has provided refreshments at the chocolate plant. Around 11:45 am, students left the plant, boarded their respective buses and departed to the university. They reached the university around 12:30 pm.



**CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY
(CHARUSAT)**

**Faculty of Technology and Engineering (FTE)
Commencement Celebration Program (A.Y. 2023-24)**



Number of students/staff participated:

(CSPIT: EC/ME/EE/CL): **153**

Organizing body: Faculty of Technology and Engineering (FTE),
CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY (CHARUSAT)

Overall impact of workshop: Excellent

Photographs



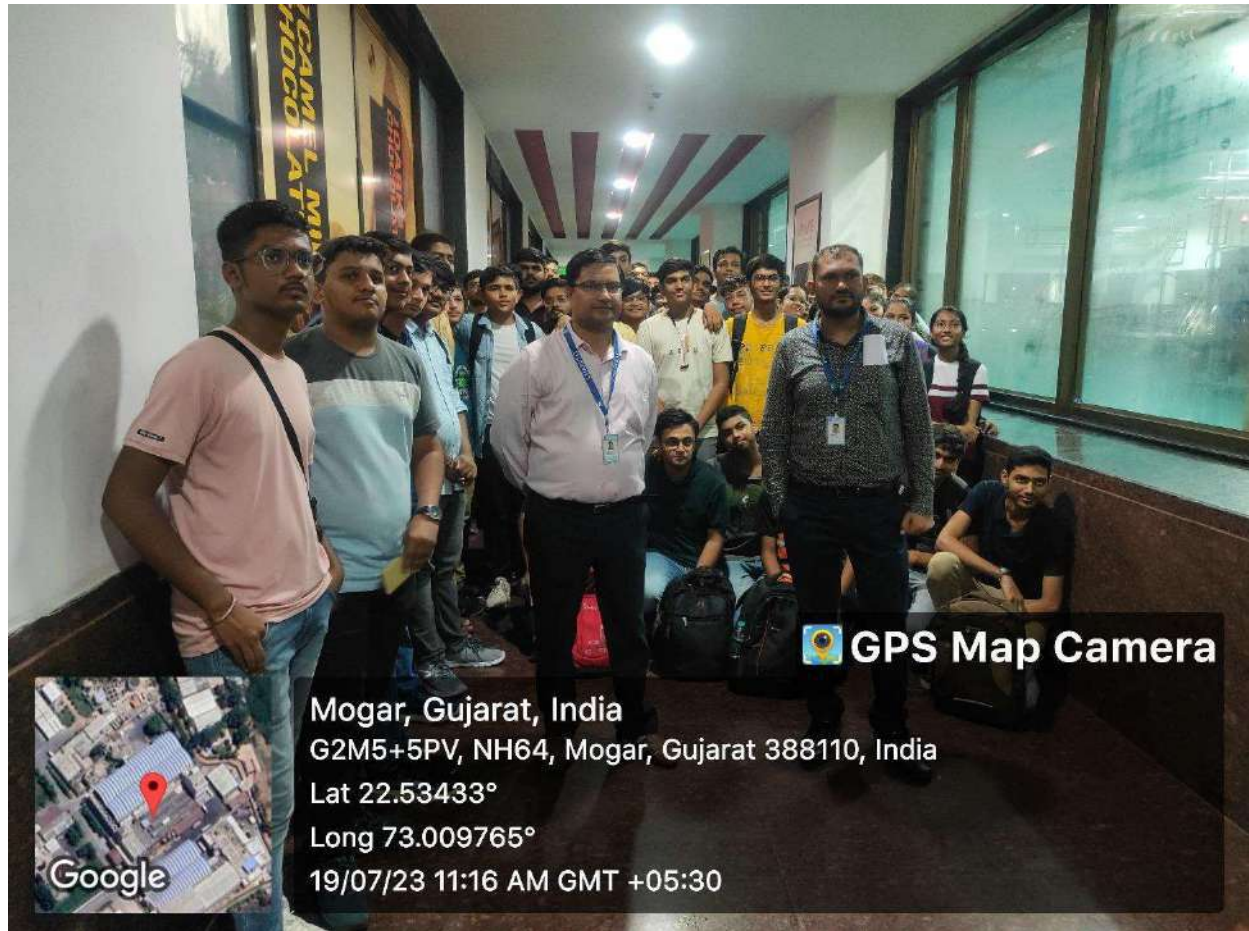
Group photo of students and faculties at Amul Chocolate plant



**CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY
(CHARUSAT)**

Faculty of Technology and Engineering (FTE)

Commencement Celebration Program (A.Y. 2023-24)



Group photo of students and faculties at Amul Chocolate plant



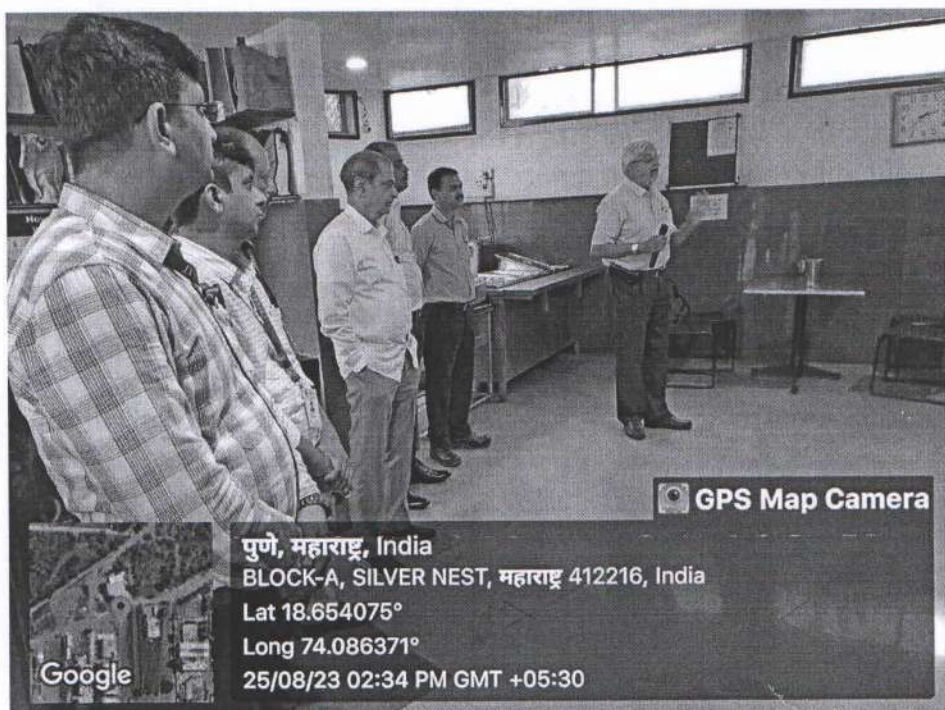
CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY
CHANDUBHAI S PATEL INSTITUTE OF TECHNOLOGY
MECHANICAL ENGINEERING DEPARTMENT

INDUSTRIAL VISIT REPORT

Date of Visit:	25/08/2023 to 28/08/2023
Industry Name and Address:	<ol style="list-style-type: none">1. Industrial Metal Powders (India) Pvt. Ltd., Gate No. 699/1, Koregaon Bhima, Pune-Nagar Road, Shirur, Pune, Maharashtra 4122162. Incredible AM Pvt. Ltd., Gate No. 699/1, Koregaon Bhima, Behind Kalyani Forge, Tal- Shirur, Dist.- Pune 412 216, Maharashtra, India.3. Uno Minda Limited, (R & D and Manufacturing Division) MIDC, Pimpri Colony, Pimpri-Chinchwad Pune, Maharashtra 411018
Organized For	B. Tech 7 th Semester
Objectives:	<ul style="list-style-type: none">• To get practical insights of manufacturing and testing process followed by the world's largest high purity iron powder manufacturer.• To get practical insights of state-of-the-art metal additive manufacturing facilities in India for the development of Patient-Specific Implants and Bio-models.• To acquaint with the technologies in the areas of lighting, comfort and convenience electronics, electric vehicles, telematics and controllers for automotive industries.• To acquaint with managing their process and product development.

Outcomes:	<ul style="list-style-type: none"> • Students have witnessed manufacturing of 99.9% and 99.5% high purity iron powder and flakes. • Students have observed industrial practices followed for melting, poring and electroplating process. • Students became aware with mechanical and microstructural testing carried out at the industry. • Students have closely witnessed Selective Laser Sintering process for metal 3D printing of biomedical implants. Design aspects were also discussed in detail. • Students have enhanced their skills for the design and development of different automotive components along with their manufacturing process. • Students have learned project management skills.
Amount Approved:	4,27,000 /- (INR)
Actual expense incurred:	3,78,000/- (INR)


Photographs of the visit:







Staff Members:

Name	Signature
Dr. Gajanan Patange	
Dr. Vishal Mehta	
Dr. Akash Vyas	
Mr. Rajesh Patel	



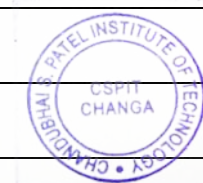
Dr. Vijay Chaudhary
HOD, ME



CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY
CHANDUBHAI S PATEL INSTITUTE OF TECHNOLOGY
MECHANICAL ENGINEERING DEPARTMENT

INDUSTRIAL VISIT REPORT

Date of Visit:	25/09/2023 to 26/09/2023
Industry Name and Address:	<ol style="list-style-type: none"> Adani Power Ltd. Village Tunda & Siracha, Taluka Mundra, Mundra, Kutch 370 435, Gujarat, India Adani Wind: Village Siracha, Taluka Mundra, Mundra, Kutch 370 435, Gujarat, India Adani Solar : Village Tunda & Siracha, Taluka Mundra, Mundra, Kutch 370 435, Gujarat, India Adani Ports & SEZ Limited Adani House, Navinal Island, Adani Port-370421. Adani Wilmar Ltd. Survey No 169, Plot no P-1,2,3, Village-Durbh, Mundra, Gujarat 370421
Organized For	B. Tech 5 th Semester
Objectives:	<ul style="list-style-type: none"> To get practical insights into how thermal power plant works. To get practical exposure regarding design, installation and working of wind mill. To get practical insights of manufacturing of solar panel. To understand the various processes involved in the oil extraction industry.
Outcomes:	<ul style="list-style-type: none"> Students became aware of the working of thermal power plant components. Students understood the various factors that need to be considered for the design & manufacturing of Windmills and Solar PV panels. The knowledge of Students enhanced in the field of automation and heavy industry.
Amount Approved:	Rs. 49560/-
Actual expense incurred:	Rs. 47200/-

Photographs of the visit:



Visit at Adani Solar, Date: 25/09/2023 6 PM



Cultural Event (Garba) at Night



Group Photo Shantivan Colony Mundra



Visit at Adani Port, Date: 26/09/2023 10 AM



Visit at Adani Wilmar, Date: 26/09/2023 11.30 AM

Staff Members:

Dr. Dattatraya G. Subhedar	
Dr. Kamlesh Chauhan	
Mr. Rahul Solanki	

Dr. Vijay Chaudhary

HOD, ME



CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY
CHANDUBHAI S PATEL INSTITUTE OF TECHNOLOGY
MECHANICAL ENGINEERING DEPARTMENT

INDUSTRIAL VISIT REPORT

Date of Visit:	14/09/2023
Industry Name and Address:	Suryadeep Alloy Steels Castings, Vitthal Udyognagar, New Vallabh Vidyanagar, GIDC, Anand
Organized For	B. Tech 3 rd Semester
Objectives:	<ul style="list-style-type: none">• To give industrial exposure to students by which they can learn about different types of patterns, core & mould making process, melting, pouring practice, sand casting, etc.
Outcomes:	<ul style="list-style-type: none">• Students became aware about various stages of sand casting process• Students have gain knowledge of different types of patterns• Students became aware of core & mould making process• Students explored the melting and pouring practice in foundry.• Students have observed fettling and post processing activities performed on cast product.



Annexure 2

List of Event organized by Mechanical Department during July 2023 to Dec 2023

Sr No	Event Type	Event Title	Event Start Date	Event End Date
1	Endowment Chair Activity	Recent trends in Alternate fuels and Renewable energy	04-Aug-23	05-Aug-23
2	Workshop	A workshop on design thinking	11-Aug-23	11-Aug-23
3	Seminar	CSIC Awareness Seminar for Students	14-Sep-23	14-Sep-23
4	Seminar	How to read Industrial Drawing	21-Sep-23	21-Sep-23
5	Workshop	One Day Workshop on Fusion 360	30-Sep-23	30-Sep-23
6	Expert Lecture	Advancement in welding technology	11-Oct-23	11-Oct-23
7	Student Wellness Program	Career Development & Wellness Counseling	04-Oct-23	04-Oct-23



Annexure 3

Charotar University of Science and Technology [CHARUSAT]

Faculty of Technology and Engineering

Department of Mechanical Engineering

Subject: ME486 Industrial Automation and Robotics

Minor Project

Sem-7

Minor Project

Course Outcome- CO5 ; Level- Evaluate

Kinematic Analysis of given robot arm using Roboanalyzer software.

Sr. No.	ID No.	Name	Details
1	20ME002	DHRUV BHATT	3 Prismatic Joint (PPP)
2	20ME007	RUSHI DHINGANI	2 Prismatic Joint 1 Rotational Joint (PPR)
3	20ME024	MANEEL PAREKH	2 Prismatic Joint 1 Rotational Joint (RPP)
4	20ME025	AADITYA PARIKH	2 Prismatic Joint 1 Rotational Joint (PRP)
5	20ME031	MALAY PATEL	1 Prismatic Joint 2 Rotational Joint (RRP)
6	20ME032	MEET PATEL	1 Prismatic Joint 2 Rotational Joint (RPR)
7	20ME049	VRAJ SHAH	1 Prismatic Joint 2 Rotational Joint (PRR)
8	20ME050	SHUBHANKAR SHAHI	3 Rotational Joint (RRR)
9	20ME051	DAKSH SONI	4 Rotational Joint (RRRR)



Annexure 4

CHAROTAR UNIVERSITY OF SCIENCE & TECHNOLOGY
FACULTY OF TECHNOLOGY & ENGINEERING
CHAMOS MATRUSANSTHA DEPARTMENT OF MECHANICAL ENGINEERING
ME 761.01: ADVANCED MATERIALS (Programme Elective- I)
M TECH 1st SEM ADVANCED MANUFACTURING TECHNOLOGY

Credit and Hours:

Teaching Scheme	Theory	Practical	Total	Credit
Hours/week	3	2	5	4
Marks	100	50	150	

A Outline of the Course:

Sr. No.	Title of the Unit	Minimum number of hours
1.	Composite Materials	18
2.	Thin Film Coatings	13
3.	Testing and Characterization of Advanced Materials	10
4.	Smart Materials	04

Total hours (Theory): 45

Total hours (Practical): 30

Total hours: 75

B Detailed Syllabus:

1	Composite Materials	18 Hours	40%
1.1	Introduction: Definition, Types of matrices and reinforcements, types of composites, properties of composites in comparison with standard materials, applications of metal, polymer, and ceramic matrix composites		
1.2	Manufacturing methods: Polymer Matrix Composites (PMC)- Hand and spray lay-up, vacuum bag method, resin transfer Moulding, compression moulding, filament winding, pultrusion, extrusion, injection moulding.		
1.3	Metal Matrix Composites (MMC): Solid state method, liquid state method, semi-solid state method, vapor deposition, In-situ.		

1.4	Ceramic Matrix Composites (CMC): Chemical vapor or liquid phase infiltration, polymer infiltration and pyrolysis (PIP), hot press sintering		
2	Thin Film Coatings	13 Hours	29%
2.1	Introduction to thin film coatings, fundamentals of thin film deposition		
2.2	Methods for thin film deposition, Advantages and applications of thin films.		
3	Testing and Characterization of Advanced Materials	10 Hours	22%
3.1	Measurement of microstructural, mechanical, thermal, Wettability and optical properties of materials, standards for material testing.		
4	Smart Materials	04 Hours	09%
4.1	Smart Materials: Shape Memory Alloys, Nanomaterials and nanocomposites, Nanorods, Aerogels, Microporous and Mesoporous materials, Inorganic-Organic Composites, Carbon Nanotubes, Modern metallic materials.		

C Instructional Methods and Pedagogy:

- At the starting of the course, delivery pattern, prerequisite of the subject will be discussed.
- Lectures will be conducted with the aid of Multi-Media projector, Black Board, OHP etc.
- Attendance is compulsory in lectures and laboratory.
- Internal exams/Unit tests/Surprise tests/Quizzes/Seminar/Assignments etc. will be conducted as a part of continuous internal theory evaluation.
- The course includes a laboratory, where students will get opportunities to build appreciation for the concepts being taught in lectures.
- Experiments/Tutorials related to course content will be carried out in the laboratory.
- In the lectures and laboratory discipline and behavior will be observed strictly.
- Material testing laboratories visits will be organized for students to explore the facilities. Students are required to prepare a report on visit and submit as a part of the assignment.

D Course Outcomes (COs):

At the end of the course, the students will be able to

CO1: Synthesis the composite material for any given engineering application.

CO2: Develop surface coating on various substrate materials to achieve desire properties.

CO3: Characterization and measurement of various properties for given materials.

CO4: Identify suitable materials for given application.

Course Articulation Matrix:

	PO1	PO2	PO3	PSO1
CO1	2	1	-	1
CO2	2	1	1	2
CO3	2	2	-	2
CO4	1	-	-	1

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High) No correlation “-”

E Recommended Study Material:

Text Books:

1. Chawla, Krishan K. Composite materials: science and engineering. Springer Science & Business Media, 2012.
2. Chawla, Krishan K., and Krishan K. Chawla. Metal matrix composites. Springer New York, 1998.
3. Ramdani, Nouredine. Polymer and ceramic composite materials: Emergent properties and applications. CRC Press, 2019.
4. D.M. Mattox, “Handbook of Physical Vapor Deposition (PVD) Processing, Film Formation, Adhesion, Surface Preparation and Contamination Control”, Noyes Publications U.S.A., (1998).
5. W.D. Callister, “Fundamentals of Materials Science and Engineering”, John Wiley & Sons Inc., New York, (2001).
6. M. Ohring, "The Materials Science of Thin Films", Academic Press Inc, San Diego, (1992).
7. P.M. Martin, "Handbook of Deposition Technologies for Films and Coatings: Science, Applications and Technology", Elsevier USA (2010)

Reference Books:

1. Gay, Daniel, and Suong V. Hoa. Composite materials: design and applications. CRC press, 2007.
2. Thomas, Sabu, et al., eds. Polymer composites, macro-and microcomposites. Vol. 1. John Wiley & Sons, 2012.
3. G. Cao, "Nanostructures & Nanomaterials: Synthesis, Properties & Applications", Imperial College Press London, (2004).

4. A.I. Gusev, A.A. Rempel, “Nanocrystalline Materials”, Cambridge International Science Publishing UK, (2004)
5. B. Bhushan, “Springer Handbook of Nanotechnology”, Springer Berlin Heidelberg New York USA, (2004).
6. H.Y. Erbil, “Surface Chemistry of Solid and Liquid Interfaces”, Blackwell Publishing Ltd, UK, (2006).

Reading Materials, web materials with full citations:

1. S.C. Tjong, H. Chen, “Nanocrystalline materials and coatings”, Materials Science and Engineering R 45 1–88 (2004)
2. B. Duncan, R. Mera, D. Leatherdale, M. Taylor, R. Musgrove, "Techniques for characterising the wetting, coating and spreading of adhesives on surfaces", NPL Report DEPC MPR 020 1-42 (2005).
3. Satyanarayana, V.N.T. Kuchibhatla, A.S.Karakoti, D. Bera, S. Seal, “One dimensional nanostructured materials”, Progress in Materials Science 52 699–913 (2007).



Annexure 5

List of aptitude sessions organized by Mechanical Department during July 2023 to Dec 2023

Sr No	Event Type	Event Title	Event Start Date	Event End Date
1	Seminar	CSIC Awareness Seminar for Students	14-Sep-23	14-Sep-23
2	Student Wellness Program	Career Development & Wellness Counselling	04-Oct-23	04-Oct-23
3	Value added course	Quantitative Aptitude and Logical Reasoning	25-Feb-2023	24-June-2023



CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF TECHNOLOGY AND ENGINEERING
CHANDUBHAI S. PATEL INSTITUTE OF TECHNOLOGY
CHAMOS MATRUSANSTHA DEPARTMENT OF MECHANICAL ENGINEERING

Value added course on “Quantitative Aptitude and Logical Reasoning”

Duration : 30 hours (Every Saturday from 25th February 2023 – Except third Saturday and declared holiday)

Course content:

1. General Aptitude

Percentage
Profit Loss Discount
Time Speed Distance
Time & Work
Ratio Proportion
Allegation & Mixture
Permutations & Contribution
Probability
Data Interpretation

2. Logical Skills

Blood Relation
Number & Alpha Series

3. Soft Skill

Resume Building
Interview Skill, GD Skill
Communication



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Faculty of Technology & Engineering
Chandubhai S. Patel Institute of Technology
CHAMOS matrusanstha department of mechanical engineering

Quantitative Aptitude and Logical Reasoning

A. Objective of the Course:

The main objectives of the course are

- The objective of the course is to enhance the candidate's aptitude. It also helps the students to find their weakness and strength.
- The students will be able to understand the importance of communication skills and this course will help them in achieving the expertise in communication skills.
- It is important for student's professional development.

B. Outline of the Course:

Sr. No.	Title of the Unit	Minimum Number of Hours
1	General Aptitude	20
2	Logical Skills	7
3	Soft Skills	5

Total hours: 32

C. Detail Syllabus

1	General Aptitude	20 Hours
1.1	Percentage	
1.2	Profit Loss Discount	
1.3	Time Speed Distance	
1.4	Time & Work	
1.5	Ratio Proportion	
1.6	Allegation & Mixtures	
1.7	Permutations & Combination	

1.8	Probability	
1.9	Data Interpretation	
2	Logical Skills	7 Hours
2.1	Blood Relations	
2.2	Number & Alpha Series	
2.3	Coding-Decoding CSPIT, CHARUSAT	
3	Soft Skills	5 Hours
3.1	Resume Building	
3.2	Interview skill, GD Skill	
3.3	Communication	

D. Instructional Method and Pedagogy:

- At the start of course, the course delivery pattern, prerequisite of the subject will be discussed.
- Lectures will be conducted with the aid of multi-media projector, black board, OHP and or Microsoft Teams.
- Attendance is compulsory.
- Assignments based on course content will be given to the students at the end of each unit/topic and will be evaluated at regular interval.

E. Students Learning Outcomes:

- The Students must at the end of the course be able to: Understand the concept communication skill and soft skill.
- Students can solve the complex problem of Quantitative aptitude and logical reasoning.

F. Recommended Study Material:

Reference Books:

1. Quantitative Aptitude by Dr. R S Aggarwal.

