



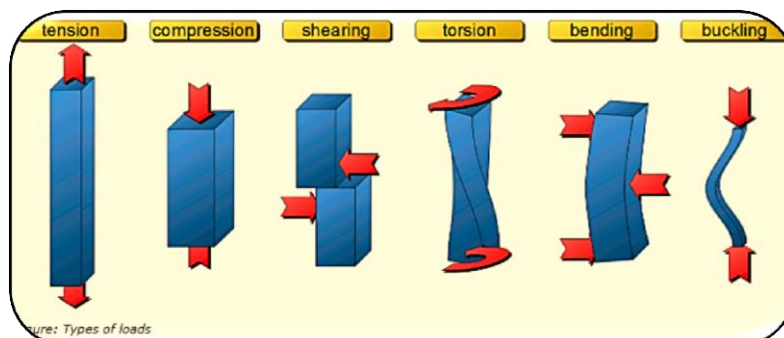
TECHNICAL EDUCATION
DEPARTMENT
GOVERNMENT OF GUJARAT



DR. S. & S. S. GHANDHY COLLEGE OF ENGG. &
TECH., SURAT

Affiliated to
GUJARAT TECHNOLOGICAL UNIVERSITY

METALLURGY DEPARTMENT BOOKLET



METALLURGY DEPARTMENT



ABOUT DEPARTMENT

In 1965, Metallurgy Department was established in Dr. S. & S. S. Gandhi College of Engineering and Technology, Surat, South Gujarat. This is the only institute that offers diploma metallurgy program in Gujarat. Institute is governed by Department of Technical Education, Government of Gujarat. Diploma metallurgy program is approved by All India council for technical education (AICTE), New Delhi and is affiliated to Gujarat Technological University, Ahmedabad.

Metallurgy department strives hard in order to fulfil the growing global demands of skilled human resource in the field of metals. Metallurgy deals with production, properties, uses, shaping and treating of metals and their alloys. All the faculties of the department are well educated and most of the faculties have registered for Ph.D. Since the inception of the department, its alumni are well placed in various industries and academics.

STUDENT INTAKE/YEAR:

Name of Department	Year	Student Intake
Metallurgy Department	1965	30
	2004	62

DURATION OF COURSE:

03 years, six semesters (including one full term industrial training in sixth semester). Students are offered industrial training in 6th semester as a part of curriculum.

ENTRY LEVEL:

1. 10th Standard Pass (1st Sem. Entry)
2. Certificate course of duration 2 years from ITI (3rd Sem. Entry)

ADMISSION:

Admission through Central Admission Committee for Professional Diploma Courses on the basis of state level merit List. **For More information visit www.acpdc.co.in**

VISION:

“To lead in diploma metallurgical engineering education with focus on innovation and sustainable development of industry and society”.

MISSION:

- To impart and empower students with relevant knowledge, competence and creativity with special emphasis on metallurgical engineering.
- To promote conducive environment for all round development of students.
- To promote linkages with external agencies to meet changing needs of industry and society.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs):

- The metallurgy diploma graduate will be able to make successful career in metallurgical industry to meet ever changing needs of industry.
- To enable diploma graduate for lifelong learning and higher studies.
- Identifying and engage in innovation, become an entrepreneur for sustainable development of society.

PROGRAM SPECIFIC OUTCOMES (PSOs):

- Apply the fundamental knowledge of metallurgy for the benefit of society, industries and research organizations.
- Diploma holders will be able to select suitable techniques for testing of metals and alloys.

PROGRAM OUTCOMES (POs):

- 1. Basic and Discipline specific knowledge:** Apply knowledge of basic mathematics, science and engineering fundamentals and engineering specialization to solve the engineering problems.

2. **Problem analysis:** Identify and analyse well-defined engineering problems using codified standard methods.
3. **Design/ development of solutions:** Design solutions for well-defined technical problems and assist with the design of systems components or processes to meet specified needs.
4. **Engineering Tools, Experimentation and Testing:** Apply modern engineering tools and appropriate technique to conduct standard tests and measurements.
5. **Engineering practices for society, sustainability and environment:** Apply appropriate technology in context of society, sustainability, environment and ethical practices.
6. **Project Management:** Use engineering management principles individually, as a team member or a leader to manage projects and effectively communicate about well-defined engineering activities.
7. **Life-long learning:** Ability to analyse individual needs and engage in updating in the context of technological changes.

TEACHING SCHEME FOR DIPLOMA IN METALLURGY ENGINEERING

SEMESTER - I										
COURSE CODE	COURSE TITLE	TEACHING SCHEME/WEEK			CREDITS (L+T+P)	EXAMINATION SCHEME				GRAND TOTAL
		L	T	P		THEORY		PRACTICAL		
						ESE	PA	ESE	PA	
3300001	BASIC MATHEMATICS	2	2	0	4	70	30	0	0	100
3300002	ENGLISH	3	2	0	5	70	30	20	30	150
3300004	ENGINEERING PHYSICS (GROUP-1)	3	0	2	5	70	30	20	30	150
3300007	BASIC ENGINEERING DRAWING	2	0	4	6	70	30	40	60	200
3300008	APPLIED MECHANICS	3	0	2	5	70	30	20	30	150
3301901	ENGINEERING WORKSHOP PRACTICE	0	0	4	4	0	0	40	60	100
		13	4	12						
TOTAL					29	350	150	140	210	850

SEMESTER - II										
COURSE CODE	COURSE TITLE	TEACHING SCHEME/WEEK			CREDITS (L+T+P)	EXAMINATION SCHEME				GRAND TOTAL
		L	T	P		THEORY		PRACTICAL		
						ESE	PA	ESE	PA	
1990001	CONTRIBUTOR PERSONALITY DEVELOPMENT	4	0	0	4	70	30	20	30	150
3300003	ENVIRONMENT CONSERVATION AND HAZARD MANAGEMENT	4	0	0	4	70	30	0	0	100
3300006	ENGINEERING CHEMISTRY (GROUP-2)	3	0	2	5	70	30	20	30	150
3300015	FUNDAMENTAL OF MECHANICAL ENGINEERING	3	0	2	5	70	30	20	30	150
3322101	BASIC PHYSICAL METALLURGY	3	0	2	5	70	30	20	30	150
3322102	METALLURGY DRAWING	0	1	7	8	0	0	40	60	100
		17	1	13						
TOTAL					31	350	150	120	180	800

SEMESTER - III										
COURSE CODE	COURSE TITLE	TEACHING SCHEME/WEEK			CREDITS (L+T+P)	EXAMINATION SCHEME				GRAND TOTAL
		L	T	P		THEORY		PRACTICAL		
						ESE	PA	ESE	PA	
3331905	APPLIED ELECTRICAL AND ELECTRONIC ENGINEERING	3	0	2	5	70	30	20	30	150
3330001	HUMAN RESOURCE DEVELOPMENT	2	0	0	2	70	30	0	0	100
3332101	JOINING OF METALS	4	0	4	8	70	30	40	60	200
3332102	METAL FORMING & POWDER METALLURGY	3	0	4	7	70	30	40	60	200
3332103	NON FERROUS PRODUCTION METALLURGY	4	0	0	4	70	30	0	0	100
3332104	FUEL FURNACES AND REFRACTORIES	4	0	0	4	70	30	0	0	100
TOTAL		20	0	10	30	420	180	100	150	850

SEMESTER - IV										
COURSE CODE	COURSE TITLE	TEACHING SCHEME/WEEK			CREDITS (L+T+P)	EXAMINATION SCHEME				
		L	T	P		THEORY		PRACTICAL		GRAND TOTAL
						ESE	PA	ESE	PA	
3342101	FOUNDRY TECHNOLOGY	4	0	4	8	70	30	40	60	200
3342102	IRON MAKING	3	0	0	3	70	30	0	0	100
3342103	TESTING OF METALS	4	0	4	8	70	30	40	60	200
3342104	ADVANCE PHYSICAL METALLURGY	4	0	4	8	70	30	40	60	200
3342105	HEAT TREATMENTS OF METALS & ALLOYS	3	0	2	5	70	30	20	30	150
3342106	METALLURGICAL ANALYSIS	3	0	0	3	70	30	0	0	100
TOTAL		21	0	14	35	420	180	140	210	950

SEMESTER - V										
COURSE CODE	COURSE TITLE	TEACHING SCHEME/WEEK			CREDITS (L+T+P)	EXAMINATION SCHEME				
		L	T	P		THEORY		PRACTICAL		GRAND TOTAL
						ESE	PA	ESE	PA	
3352101	STEEL MAKING	3	0	0	3	70	30	0	0	100
3352102	CORROSION OF METALS	3	0	4	7	70	30	40	60	200
3352103	ALLOY STEEL	3	0	2	5	70	30	20	30	150
	ELECTIVE-I (ONE SUBJECT FROM ANY GROUP)	3	2	0	5	70	30	20	30	100
	ELECTIVE-II (ANOTHER SUBJECT FROM THE SAME GROUP)	3	0	2	5	70	30	20	30	150
3352108	PROJECT-I	0	0	8	8	0	0	80	120	200
TOTAL		15	2	14	33	350	150	180	270	900

GROUP - I	
3352104	METALLURGICAL THERMODYNAMICS AND KINETICS
3352105	ADVANCE ENGINEERING IN MATERIALS
GROUP - II	
3352106	THERMAL TREATMENT OF METALS AND ALLOYS
3352107	ADVANCE FOUNDRY

SEMESTER - VI										
COURSE CODE	COURSE TITLE	TEACHING SCHEME/WEEK			CREDITS (L+T+P)	EXAMINATION SCHEME				GRAND TOTAL
		L	T	P		THEORY		PRACTICAL		
						ESE	PA	ESE	PA	
3362101	INDUSTRIAL TRAINING	0	0	0	33	0	0	300	500	800
TOTAL		0	0	0	33	0	0	300	500	800

BRIDGE COURSE FOR C2D STUDENTS

SEMESTER - I										
COURSE CODE	COURSE TITLE	TEACHING SCHEME/WEEK			CREDITS (L+T+P)	EXAMINATION SCHEME				GRAND TOTAL
		L	T	P		THEORY		PRACTICAL		
						ESE	PA	ESE	PA	
C300001	BASIC MATHEMATICS	14	10	0	24	70	30	0	0	100
C300002	ENGLISH	21	10	0	31	70	30	20	30	150
C300004	ENGINEERING PHYSICS (GROUP-1)	21	0	14	35	70	30	20	30	150
C300008	APPLIED MECHANICS	21	0	14	35	70	30	20	30	150
TOTAL		77	20	28	125	280	120	60	90	550

SEMESTER - II										
COURSE CODE	COURSE TITLE	TEACHING SCHEME/WEEK			CREDITS (L+T+P)	EXAMINATION SCHEME				
		L	T	P		THEORY		PRACTICAL		GRAND TOTAL
						ESE	PA	ESE	PA	
C300003	ENVIRONMENT CONSERVATION & HAZARD MANAGEMENT	28	0	0	28	70	30	0	0	100
C300006	ENGINEERING CHEMISTRY (GROUP-2)	21	0	14	35	70	30	20	30	150
C300015	FUNDAMENTAL OF MECHANICAL ENGINEERING	21	0	14	35	70	30	20	30	150
C322101	BASIC PHYSICAL METALLURGY	21	0	14	35	70	30	20	30	150
C322102	METALLURGY DRAWING	0	5	49	54	0	0	40	60	100
TOTAL		91	5	91	187	280	120	100	150	650

For more details regarding syllabus, examination scheme etc., kindly visit www.gtu.ac.in

INFRASTRUCTURE

Metallurgy Department is equipped with well-ventilated classrooms with adequate flexible furniture. Department is equipped with five laboratories. Details of various labs are given below.

1. PHYSICAL METALLURGY LABORATORY

This laboratory is equipped with various instruments like Belt Grinding Machine with Sanding Belt, Double Disc Polishing Machine, Metallurgical Microscopes and various metals and alloys specimen set.



Belt Grinding Machine with Sanding Belt



Double Disc Polishing Machine



Metallurgical Microscopes

2. FOUNDRY LABORATORY

This laboratory is equipped with Crucible Furnace, Digital Electronic Balance and models of Cupola furnace, Electric-Arc furnace, gating system, sieve shaker and disc pelletizer.



Crucible Furnace



Digital Electronic Balance (600 gm)

3. MATERIAL TESTING LABORATORY

Material testing laboratory is equipped with Ultrasonic Digital Flaw Detector, Liquid Penetrant Test kit and model of fatigue testing machine.



Ultrasonic Digital Flaw Detector

4. HEAT TREATMENT LABORATORY

This laboratory is mainly used for heat treatment of metals and alloys. It is equipped with muffle furnace and other instruments which is used in physical metallurgy laboratory.



Muffle Furnace

5. METAL WORKING LABORATORY

Metal working laboratory is equipped with rolling mill. Models of extrusion and rolling mills are also available for demonstration.



Rolling Mill

COMPUTING FACILITIES

Department is equipped with ICT tools like Laptop, projector, speakers which are frequently used in classrooms to enhance the teaching learning process. Free Access NaMo Wifi facility is also available at department.

DEPARTMENT LIBRARY

Many reference books of metallurgical and basic subjects are available in departmental library. Students can access the books as per their will and convenience.

FACULTY DETAILS

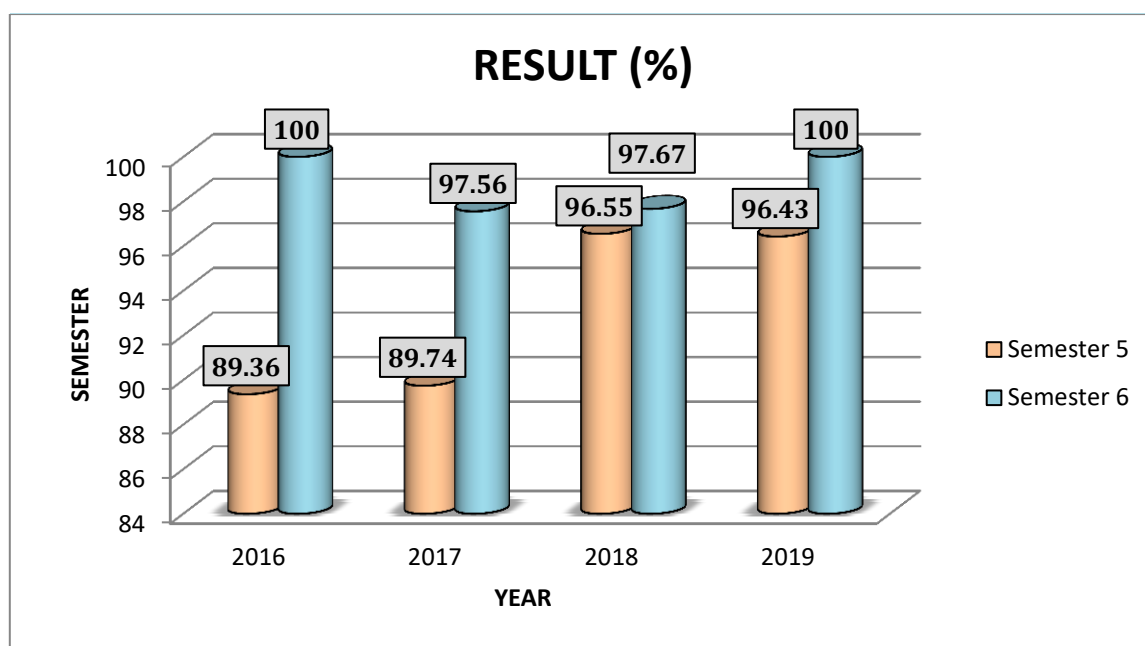
SR. NO.	NAME	DESIGNATION	QUALIFICATION	TEACHING EXPERIENCE
1	Mrs. B. H. Goyal	H.O.D	M.E.	26
2	Mr. S. F. Parmar	Lecturer	M.E.	14
3	Ms. S. M. Patel	Lecturer	M.E.	08
4	Mr. M. J. Joshi	Lecturer	M.E.	09
5	Mr. T. K. Kyada	Lecturer	M.E.	03
6	Mr. R. D. Dave	Lecturer	M.E.	03
7	Mr. N. G. Patel	Lecturer	M.E.	03
8	Mr. A. M. Gautam	Lecturer	M.E.	08

For more information kindly visit www.ssgc.cteguj.in

TECHNICAL & SUPPORTING STAFF

SR. NO.	NAME	DESIGNATION	QUALIFICATION	EXPERIENCE
1	Ms. J. B. Lad	Lab. Assistant	Diploma Mechanical Engineering	07

RESULT ANALYSIS



TRAINING & PLACEMENTS OPPORTUNITIES

Every year all the students of semester 6 are placed for full term (14 weeks) industrial training as a part of curriculum. List of industry where students undergone Industrial training is given below.

Sr. No.	Company name	Sr. No.	Company name
1	C .M. Smith Sons. Ltd., Ahmedabad	10	NSVP Induction Casting, Surat
2	Crown Metal, Surat	11	Radiance Techno Metal, Surat
3	Arcelor Mittal Nippon Steel India Ltd, Surat	12	Shiva Engineering, Surat
4	JMT India Inc., Surat	13	Slok Ndt & Inspection Services, Surat
5	Krishna Copper, Valsad	14	Theis Precision India Pvt Ltd, Navsari
6	Larsen & Toubro Ltd, Surat	15	Technoforge, Ankleshwar
7	Miranda Tools, Ankleshwar	16	Vittoria Designs Pvt. Ltd., Rajkot
8	NHB Ball & Roller Ltd., Amalsad	17	Welspun Corp Pipes And Plates, Vadodara
9	Nivic Technocast, Rajkot	18	M.H.T.E. Metal Heat Treatment, V. V. nagar

Every year campus drives are held at Institute by various metallurgical companies. Many students are placed through on/off campus drive. Many diploma Graduates of this program are recruited by ArcelorMittal Nippon Steel India Limited, Surat. Most of the pass outs either get placement or go for further studies.

List of industries/companies hired our graduates in past few years is given below.

Arcelor Mittal Nippon Steel India Ltd, Hazira
Larsen & Toubro Ltd, Surat
Hindalco Industries Ltd (Birla copper), Bharuch
Uttamgalva, Vardha
Theis Precision India Pvt Ltd, Navsari
Schaeffler India Limited, Vadodara
Royal Arc Electrodes Ltd., Bhilad
Miranda Tools, Ankleshwar
China Steel Corporation India Pvt. Ltd., Bharuch

CO-CURRICULAR & EXTRA CURRICULAR ACTIVITIES

Even though, knowledge and academics are important for every student, it is necessary to develop skills and talents through extra-Curricular and Co-Curricular Activities, for the overall personality development of student. Activities like Food Festival, Important Day Celebration, Tree plantation, Cleanliness drive, Yoga celebrations, Sports week, Group Discussions, Mock Interview, Finishing School, NCC and NSS activities are planned and organised in department and institute level for an overall development of students. In every term expert lectures, seminar/workshop/webinar and industrial visits are arranged by metallurgy department. For first year students Thalassemia Test is conducted at institute level. Every year institute is organizing blood donation camp students and faculty supports and contributes in it.

CONTACT US

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 Contact No. 0261-2655799
 Department E mail: metssg21@gmail.com