



TECHNICAL EDUCATION DEPARTMENT

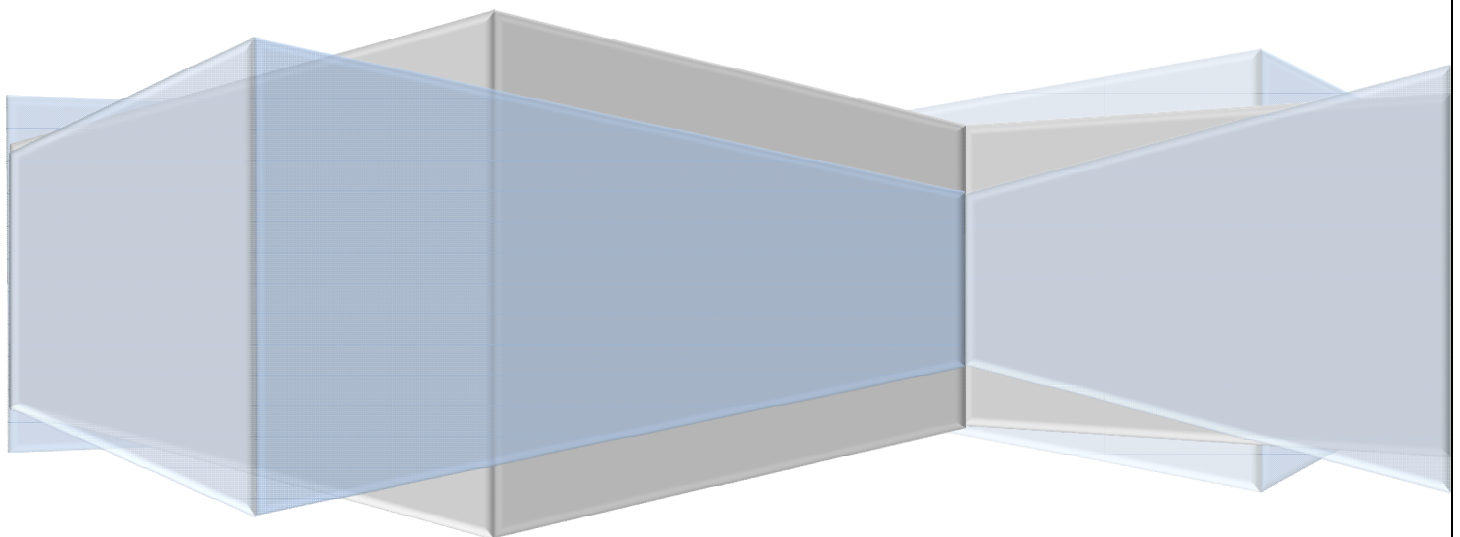
GOVERNMENT OF GUJARAT

Dr. S. & S.S. Gandhi College of Engg. & Tech., Surat

Affiliated to

GUJARAT TECHNOLOGICAL UNIVERSITY

Automobile Engineering Department Booklet



AUTOMOBILE ENGINEERING DEPARTMENT



ABOUT DEPARTMENT:

Automobile Engineering Department established in 1958, is one of the pioneering departments of Dr. S. & S. S. Gandhi College Of Engineering And Technology, Surat. Institute is running under Department of Technical Education, Government of Gujarat. Diploma automobile engineering program is approved by All India council for technical education (AICTE), New Delhi and is affiliated to Gujarat Technological university, Ahmedabad. Diploma automobile engineering program is **Accredited by National board of Accreditation (NBA), New Delhi for 3 years (2021-2024).**

Automobile engineering is a branch of engineering which deals with designing, manufacturing, operating, repair and diagnosis of vehicles. It is a segment of vehicle engineering which deals with motorcycles, cars, buses, trucks, etc. It includes mechanical, electrical, electronic, dynamics, software and safety elements. The department has qualified faculty members engaged in teaching learning process with the aim of achieving excellence in the field of automobile engineering.

STUDENT INTAKE/YEAR

Name of Department	Year	Student Intake
Automobile Engineering	1958	30
	2001	60

DURATION OF COURSE

03 years, six semesters (including one full term industrial training in fifth semester). Students are offered industrial training in 5th SEM as a part of curriculum.

ENTRY LEVEL

1. 10th Standard Pass (1st Sem. Entry)
2. Certificate course of duration 2 years from TEB /NCVT/GCVT/IGTR (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 be a centre of excellence in technical education to prepare diploma automobile engineers with innovative technical and professional skills suitable to automotive industry and the society.”

MISSION:

- ✓ To impart globally viable technical core competencies and skills related to Automobile Engineering.
- ✓ To provide scholarly and vibrant learning environment for achieving professional excellence and innovation.
- ✓ To strengthen the institute – industry relation to stay updated with dynamic behavior of automotive sector.
- ✓ To inculcate professional ethics and moral values amongst the students.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs):

The program in Automobile Engineering will prepare students

- ✓ To make successful career in the field of Automobile service, manufacturing, Road Transport, Motor Insurance and allied automobile sector.
- ✓ To pursue and excel in higher education for their professional development.
- ✓ To demonstrate professional ethics and ethos with life-long learning, contributing to the betterment of the society.

PROGRAM SPECIFIC OUTCOMES (PSOs):

Diploma Automobile graduate will be able

- ✓ To identify, test, analyze and solve problems related to vehicle service.
- ✓ To inspect road transport and conduct motor insurance survey.

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 AUTOMOBILE ENGINEERING

SEMESTER 1											
<u>SUB CODE</u>	<u>SUBJECT NAME</u>	<u>CATEGORY</u>	<u>L.</u>	<u>T.</u>	<u>P.</u>	<u>TOTAL</u>	<u>E</u>	<u>M</u>	<u>I</u>	<u>V</u>	<u>TOTAL</u>
4300001	Mathematics	Basic Sciences	3	1	0	4	70	30	0	0	100
4300002	Communication Skills in English	Humanities & Social Sciences	2	0	2	3	70	30	25	25	150
4300004	Applied Physics	Basic Sciences	3	0	2	4	70	30	25	25	150
4300007	Engineering Drawing	Engineering Sciences	2	0	4	4	70	30	25	25	150
4300015	Sports and Yoga	Audit	0	0	2	0	0	0	50	0	50
4310001	Basics of Civil Engineering	Engineering Sciences	0	2	2	3	0	0	25	25	50
4310201	Auto Trade Practice	Program Core	0	0	4	2	0	0	25	25	50

SEMESTER 2											
<u>SUB CODE</u>	<u>SUBJECT NAME</u>	<u>CATEGORY</u>	<u>L.</u>	<u>T.</u>	<u>P.</u>	<u>TOTAL</u>	<u>E</u>	<u>M</u>	<u>I</u>	<u>V</u>	<u>TOTAL</u>
4300003	Environment and Sustainability	General Science	3	0	0	3	70	30	0	0	100
4300008	Engineering Mechanics	Engineering Sciences	3	1	2	5	70	30	25	25	150
4300014	Basics of Electrical and Electronic Engineering	Engineering Sciences	0	2	2	3	0	0	25	25	50
4300019	Computer Applications and Graphics	Engineering Sciences	0	0	4	2	0	0	25	25	50
4300020	Engineering Material	Program Core	3	0	2	4	70	30	25	25	150
4301901	Engineering Workshop practice	Engineering Sciences	0	0	4	2	0	0	25	25	50
4320202	Thermodynamics & Hydraulics	Program Core	3	1	0	4	70	30	0	0	100

SEMESTER 3											
<u>SUB CODE</u>	<u>SUBJECT NAME</u>	<u>CATEGORY</u>	<u>L.</u>	<u>T.</u>	<u>P.</u>	<u>TOTAL</u>	<u>E</u>	<u>M</u>	<u>I</u>	<u>V</u>	<u>TOTAL</u>
4330201	Automobile Engine	Program Core	3	0	2	4	70	30	25	25	150
4330202	Automobile Transmission & Mechanism	Program Core	3	0	2	4	70	30	25	25	150
4330203	Automobile Electrical and Electronic System	Program Core	3	0	2	4	70	30	25	25	150

4330204	Fuels and Pollution Control System	Program Core	3	0	2	4	70	30	25	25	150
4330205	Vehicle Body Engineering	Program Core	2	0	2	3	70	30	25	25	150
4330206	Automobile Design & Drafting	Program Core	2	2	2	5	70	30	25	25	150

SEMESTER 4

<u>SUBCODE</u>	<u>SUBJECTNAME</u>	<u>CATEGORY</u>	<u>L.</u>	<u>T.</u>	<u>P.</u>	<u>TOTAL</u>	<u>E</u>	<u>M</u>	<u>I</u>	<u>V</u>	<u>TOTAL</u>
4300003	Environment and Sustainability	compulsory	3	0	0	3	70	30	0	0	100
4340001	Essence of Indian Knowledge and Tradition	Elective(Any one)	2	0	0	2	70	30	25	25	150
4340002	Contributor Personality Development	Elective(Any one)	2	0	0	2	70	30	25	25	150
4340003	Integrated Personality Development Course	Elective(Any one)	2	0	0	2	70	30	25	25	150
4340201	Automotive Heating & Air Conditioning	compulsory	2	0	2	3	70	30	25	25	150
4340202	Automotive Mechanics	compulsory	2	2	0	4	70	30	0	0	100
4340203	Recent Trends in Automobile	compulsory	2	0	2	3	70	30	25	25	150
4340204	Manufacturing Technology	compulsory	3	0	2	4	70	30	25	25	150
4340205	Automobile Professional Practice-1	compulsory	0	0	6	3	0	0	50	50	100

SEMESTER 5

<u>SUBCODE</u>	<u>SUBJECTNAME</u>	<u>CATEGORY</u>	<u>L.</u>	<u>T.</u>	<u>P.</u>	<u>TOTAL</u>	<u>E</u>	<u>M</u>	<u>I</u>	<u>V</u>	<u>TOTAL</u>
4350201	Industrial Training	compulsory	0	0	30	15	0	0	500	300	800

SEMESTER 6

<u>COURSE</u>	<u>COURSE TITLE</u>	<u>CATEGORY</u>	<u>TEACHING SCHEME (HOURS)</u>			<u>EXAMINATION SCHEME</u>					
			<u>L</u>	<u>T</u>	<u>P</u>	<u>CREDITS (L+T+P)</u>	<u>THEORY MARKS</u>		<u>PRACTICAL</u>		<u>GRAND TOTAL</u>
						<u>ESE</u>	<u>PA</u>	<u>ESE</u>	<u>PA</u>		
4300021	Entrepreneurship and Start-ups	Compulsory	3	0	0	3	70	30	0	0	100
4360201	Maintenance & Service -I	Compulsory	2	0	2	4	70	30	25	25	150
4360202	Maintenance & Service -II	Compulsory	2	0	2	4	70	30	25	25	150
4360203	Maintenance &	Compulsory	2	0	2	4	70	30	25	25	150

	Service -III										
4360204	Electric & Hybrid vehicle	Compulsory	2	0	2	4	70	30	25	25	150
4360205	Transport management & motor Industry	Compulsory	3	1	0	4	70	30	0	0	100
4360206	Automobile professional practice-2	Compulsory	0	0	6	6	0	0	50	50	100
TOTAL			18	0	11	29	350	150	80	180	800

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

INFRASTRUCTURE

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

Automobile Engine Lab

This laboratory is equipped with a demonstration and experimental facility for various Petrol Engines and Diesel Engines. Major equipments are Microprocessor based Computerized injector Cleaner & Tester for the injectors of MPFI petrol engine, Cut sectioned single cylinder Two stroke Air cooled petrol Engine, Working Model Of Lubrication System, MPFI Engine, Cut section of Four Stroke Petrol Engine, Four Stroke Diesel Engine, Valve Refacing M/c.



Automobile Transmission Lab

This laboratory houses a demonstration and experimental facility for Various transmission system like clutch, brake , Gearbox, Suspension system etc. Major Equipments in lab are cut section of brake & suspension, Cut section of differential axle tube type, Cut section of torque converter (fluid), Actual Working Model of Air Brake, Cut Section of Original Power Steering System.



Working model of Air brake



Cut Section of Power Steering System

Automobile Electrical Lab

This laboratory houses a demonstration and experimental facilities for various automobile electric systems like battery, ignition system, charging system, starting system etc. Major Equipments are Battery Charger, Typical wiring system of vehicle, Auto Electrical Test Bench of Starter & Alternator.



Auto Electrical Test bench



Typical Wiring system of a vehicle

Fuels And Lubricants Lab

This laboratory is equipped with all the necessary equipments /set ups required for fuels and lubricants testing like Westphal Balance, Carbon Residue Corrosion Tester, Distillation Apparatus, Electronic Weighing Scale Along With Windshield, Redwood Viscometer, Pensky Martin Test Apparatus, Cloud Point Measuring Apparatus, Set Of Thermometers.



Redwood Viscometer



Distillation Test Apparatus

Testing Lab

This laboratory houses demonstration and experimental facilities specially for pollution control and on board diagnostic. Major equipments are Smoke testing m/c-Diesel Smoke Meter, Auto Scanner & diagnostic tool, Exhaust gas analyzer for petrol engine.



Auto Scanner



Diesel Smoke meter

Service Station

This laboratory has various equipments which enables students to get Practical experiences in servicing and overhauling of various assemblies. The major equipments in lab are Two Stage Air Compressor, car Washing Pump, various hand tools and special purpose tools, Precision measuring instruments, hydraulic jack, etc.



Washing Pump



Two stage Air compressor

COMPUTING FACILITIES

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

DEPARTMENT LIBRARY

Many reference books for automobile engineering is available in department library. Students can access the books as per their will and convenience.

FACULTY DETAILS

Sr. No.	Name of Faculty	Designation	Qualification	Teaching Experience
1	Mrs. S.S. Ganatra	H.O.D.	M.E.Mech.	25 Yrs.
2	Mr. G.A. Kapadia	Lecturer	M.E.Mech.	14 Yrs.
3	Mr. J.G.Kedaria	Lecturer	M.E.Mech.	08 Yrs.
4	Ms. S.S. Maitra	Lecturer	B.E.Auto.	10 Yrs.
5	Mr. R.J.Ladumor	Lecturer	M.E.Mech.	06 Yrs.
6	Mr. K.V.Jadav	Lecturer	B.E.Auto.	07 Yrs.
7	Mr. K.C.Gandhi	Lecturer	B.E.Auto.	07 Yrs.
8	Mr. N.J.Patel	Lecturer	B.E.Auto.	07 Yrs.
9	Mr. C.A.Patel	Lecturer	B.E.Auto.	08 Yrs.
10	Mr. S.K.Modi	Lecturer	B.E.Auto.	10 Yrs.
11	Mr. A.D.Patel	Lecturer	M.E.Mech.	05 Yrs.

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

TECHNICAL & SUPPORTING STAFF

Sr.No.	Name of the Technical Staff	Designation	Qualification	Date of Joining
1	Mrs. N.M.Danagaria	Lab Assistant	Diploma Mech. Engg.	13/12/2013

TRAINING & PLACEMENTS OPPORTUNITIES

Every year all the students of semester 5 are placed for full term (14 weeks) industrial training as a part of curriculum. List of industry/service stations where students undergone Industrial training are listed below.

Sr.No.	Name & Address of Training Center	No.Of Students
1	Kataria Automobile Pvt. Ltd. (Maruti Authorised), Ganesh Sisodar, Navsari	06
2	GSRTC workshop, Bholav Road, Bharuch-392001.	02
3	Kiran Motors Ltd. (Maruti Authorized), Udhna, Surat-394 210	04
4	L & T Defence Ltd., Hazira, Surat.	02
5	Landmark (Honda Authorised), Vesu, Surat-395007.	02
6	Kataria Automobiles Pvt. Ltd., (Authorized Maruti Dealer), Adajan, Surat	09
7	Kataria Automobile Pvt. Ltd., Dumas Road, Piplod, Surat	08
8	Dream Honda (Honda Authorized), Ganesh Sisodara Road, Navsari-396 463	02

9	Comet Motors (Authorised Maruti Suzuki Dealer), Paniyari, Ta. Vyara, Dist. Tapi.	02
10	Kataria Automobile Pvt. Ltd., (Maruti Authorised), VIP Road, Surat.	06
11	Silicon Motors. (Hyundai Authorised), Piplod, Surat	01
12	Audi Service, (Authorised), Ischhapore, Surat	01
13	Dream Honda (Honda Authorised), Udhna Main Road, Surat	01
14	Rathod Toyota (Authorised), Balitha, Vapi-396191	01
15	Monarch Automotive Pvt. Ltd. (Hyundai Authorized), Surat-395 004	01
16	J.K. Motors (Maruti Authorized Service Station)Pal Gam, Surat	01
17	Torque Automotive Pvt. Ltd. (Skoda Authorized) ,Ichhapore Road, Surat	01
18	Pavan Motors, Near Bada Ganesh Mandir, Alkapuri, Surat.	01
19	Kataria Automobile Pvt. Ltd., Bardoli Kadodara Road, Palsana.	01

Each year campus drives are held at Institute by various automobile industries, authorized workshops and Motor insurance companies. Many students are placed every year through on/off campus drive. Diploma Automobile graduates are also eligible to apply for the post of Assistant Inspector of Motor Vehicle (AIMV)(class-3). Many diploma Graduates of this program are recruited in Government of Gujarat as AIMV. Approximately 40% of diploma Automobile graduates are getting admission in degree engineering program. List of industries/companies hired our graduates in past few years is given below.

1	Tata Motors, Gujarat
2	Bajaj Auto Ltd., Maharashtra
3	Future Generali Insurance co. Ltd.
4	Bajaj Allianz General Insurance Co. Ltd.
5	Mahindra & Mahindra Ltd., Maharashtra
6	Yazaki India Pvt.Ltd., Gujarat
7	L & T Construction, Gujarat
8	Suzuki Motors,Gujarat
9	ICICI Lombard
10	Iffco Tokyo General Insurance Co. Ltd.
11	Bajaj Finance
12	Nanavati Motors, Surat
13	Ambica Motor, Surat
14	Navjivan Motors, Surat
15	Dhruv Motors, Surat
16	Kiran Motors, Surat
17	Yantraman Automac Pvt Ltd.,Surat
18	Kataria Motors, Surat

INSTITUTE – INDUSTRY INTERACTION

Strong institute-industry linkage is established by department to keep pace with technological advances and stay updated with dynamic behavior of automotive sector, in mutual benefit of institute and society. MoUs are done with various industries/service stations to share resources and knowledge. Industries also provide support and advice to academic program and identify best practices standards.

CO - CURRICULAR AND EXTRACURRICULAR ACTIVITIES

Series of Co-curricular and extracurricular activities like Group Discussions, Expert lectures, Industrial visits, Tree plantation, Cleanliness drive, Yoga celebrations, Sports week, NCC and NSS activities are planned and organised in department and institute for a harmonious development of students in respect to their morality, humanity, honesty, character and health. These activities also contribute to the development of soft skills or employable skills to great extent, which are ultimately required at the world of work.

CONTACT US

Automobile Engineering Department

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