

STUDY AND EVALUATION SCHEME FOR LATERAL ENTRY AND ITI PASSES STUDENTS
Diploma in Mechanical Engineering (Six Semester)
Semester: III

Sr. No.	SUBJECTS	STUDY SCHEME Periods/Week			Credits	MARKS IN EVALUATION SCHEME									Total Marks of Internal & External	End Semester Exam Type
						INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT							
		L	T	P		Th	Pr	Tot	Th	Hrs	Pr	Hrs	Tot			
1.	Thermal Engineering -I	4	0	0	3	40	-	40	60	3	-	-	60	100	Theory	
2.	Fluid Mechanics & Hydraulic Machinery	4	0	0	3	40	-	40	60	3	-	-	60	100	Theory	
3.	Fluid Mechanics & Hydraulic Machinery Lab	0	0	4	2	-	60	60	-	-	40	3	40	100	Practical	
4.	Workshop Practice	0	0	4	2	-	60	60	-	-	40	3	40	100	Practical	
5.	Measurements & Metrology	1	0	4	3	-	60	60	-	-	40	3	40	100	Practicum	
6.	Computer Aided Machine Drawing Practice	1	0	6	4	-	60	60	-	-	40	3	40	100	Practicum	
7.	Advance Skill Development OR	-	-	-	2	-	-	-	-	-	-	-	-	-	*Qualifying	
	*Open Elective-I	2	-	-		50	-	50	-	-	-	-	-			
8.	MINOR PROJECT**	-	-	-	1	-	50	50	-	-	-	-	-	-		
#Student Centred Activities (SCA)		-	-	6	-	-	50	50	-	-	-	-	-	50	-	
Total		12	0	24	20	80	340	420	120	-	160	-	280	700		

#Student Centered Activities will comprise of co-curricular activities like extension lectures, games, hobby clubs e.g. photography etc., seminars, declamation contests, educational field visit, Library, N.C.C., NSS, Cultural Activities and self-study etc.

* **Qualifying paper** must have to pass, but the marks will not be added in awarded division or total marks.

***Tata Tech. Based Open Elective-I** subject will be offered preferably at the centers established by Tata Tech.

** Lateral entry students shall undertake a minor project and deliver a presentation on the same. This project will serve as an equivalent to summer internship-I for the

purpose of earning the associated credits and marks.

The lecture allotted to SCA can also be utilized for the course completion of other subjects.

Note -

- 1) Each period will be 60 minutes duration.
- 2) Each session will be of 16 weeks.
- 3) Effective teaching will be at least 14 weeks.

Open Elective-I

- Material Handling Systems (AICTE)
- Energy Conservation & Audit (AICTE)
- Advanced Welding & Painting using Simulator (Tata Tech)
- Industrial Robotics & Automation (AICTE)
- Internet of Things (Tata Tech)
- Product Verification & Analysis (Tata Tech)

Advance Skill Development:

To fulfill the requirements for Advanced Skill Development, a minimum of 20 hours of skill certification is necessary. This certification must be obtained from a recognized national or international agency or institute. The assessment and certification process will be conducted by the respective agency or institute. Students must present their certificate to earn 02 credits for this subject.

A. COMPULSORY SUBJECT OF I & II SEMESTER MECHANICAL ENGINEERING TO BE TAUGHT IN III Sem. TO ITI PASSED STUDENTS OF TRADES ARE AS FOLLOWS :

TOOL & DIE MAKER(PRESS TOOLS, JIGS & FIXTURES), TOOL & DIE MAKER (DESIGN & MOULDS), MECHANIC MACHINE TOOLS MAINTENANCE), DRAUGHTSMAN (MECHANICAL), MACHINIST, MACHINIST (GRINDER), FITTER, TURNER, MECHANIC(DOMESTIC COMMERCIAL, REFRIGERATION & AC), PRODUCTION & MANUFACTURING SECTOR, AUTOMOBILE SECTOR, REFRIGERATION AND AIRCONDITIONER SECTOR, FABRICATION (FITTING & WELDING), MECHANIC (MOTOR VEHICLE), MECHANIC (AGRICULTURE M/c)

Sr. No.	SUBJECTS	STUDY SCHEME Periods/Week				Credits	MARKS/INEVALUATION/SCHEME										Total Marks of Internal& External
							INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT							
		L	T	P	Total		Th	Pr	Tot	Th	Hrs	Pr	Hrs	Tot			
1.1	*MATHEMATICS-I	2	1	-	3	3	40	-	40	60	3	-	-	60	100		
1.2	*APPLIEDPHYSICS-I	3	-	2	5	4	40	60	100	60	3	40	3	100	200		
1.3	*APPLIEDCHEMISTRY	3	-	2	5	4	40	60	100	60	3	40	3	100	200		
1.4	*COMMUNICATIONSKILLS IN ENGLISH	3	-	2	5	4	40	60	100	60	3	40	3	100	200		
TOTAL		11	1	6	18	15	160	180	340	240		120		360	700		

* Common with other diploma programmes

Student Centred Activities will comprise of co-curricular activities like extension lectures, self study, games, hobby clubs e.g. photography etc., seminars, declamation contests, educational field visits, N.C.C., NSS, Cultural Activities, disaster management and safety etc.

(*) It is compulsory to appear & to pass in examination From III Semester To VI Semester, But credit/marks will not be included for division and percentage of obtained marks.

(*) Four Semester (Two Years) of Extra Time will be given after diploma curriculum period (If Required) to pass the above paper (1.1 To 1.4 and 2.1 to 2.2) examination (As Per G. O. No. 2221/16-Pra. Shi.-3-2009 Dated 28-08-2009) & Revised G.O. No. 2704/16-Pra.Shi.-3-2013-46(8)/2002 Dated 09-01-2013 and B.T.E Order No. Pra.Shi.Pa/C.D.C./2022/872021 Dated 21.02.22

STUDY AND EVALUATION SCHEME FOR LATERAL ENTRY AND ITI PASSES STUDENTS
Diploma in Mechanical Engineering (Six Semester)
Semester: IV

Sr. No.	SUBJECTS	STUDY SCHEME Periods/Week			Credits	MARKS IN EVALUATION SCHEME									Total Marks of Internal & External	Exam Type
						INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT							
		L	T	P		Th	Pr	Tot	Th	Hrs	Pr	Hrs	Tot			
1.	Strength of Materials	4	0	0	3	40	-	40	60	3	-	-	60	100	Theory	
2.	Industrial Engineering & Management	4	0	0	3	40	-	40	60	3	-	-	60	100	Theory	
3.	Strength of Materials Lab	0	0	6	3	-	60	60	-	-	40	3	40	100	Practical	
4.	Manufacturing Engineering	2	0	3	3	-	60	60	-	-	40	3	40	100	Practicum	
5.	Material Science & Engineering	1	0	4	3	-	60	60	-	-	40	3	40	100	Practicum	
6.	Thermal Engineering-II	1	0	4	3	-	60	60	-	-	40	3	40	100	Practicum	
7.	Advance Skill Development OR	-	-	-	2	-	-	-	-	-	-	-	-	-	*Qualifying	
	*Open Elective-II	2	-	-		50	-	50	-	-	-	-	-	-		
8.	*Essence of Indian Knowledge and Tradition (Q)	2	0	0	-	50	-	50	-	-	-	-	-	-	*Qualifying	
#Student Centred Activities (SCA)		-	-	3	-	-	50	50	-	-	-	-	-	50	-	
Total		16	0	20	20	80	290	370	120	-	160	-	280	650	-	

Industrial training of 4-6 weeks duration to be organized after 4th semester exam and will be evaluated in 5th sem.

Student Centered Activities will comprise of co-curricular activities like extension lectures, games, hobby clubs e.g. photography etc., seminars, declamation contests, educational field visit, Library, N.C.C., NSS, Cultural Activities and self-study etc.

* **Qualifying paper** must have to pass, but the marks will not be added in awarded division or total marks.

***Tata Tech. Based open elective-II** subject will be offered preferably at the centers established by Tata Tech.

The lecture allotted to SCA can also be utilized for the course completion of other subjects.

Note -

- 1) Each period will be 60 minutes duration.
- 2) Each session will be of 16 weeks.
- 3) Effective teaching will be at least 14 weeks.

Open Elective-II

- Refrigeration & Air-conditioning
- Power Plant Engineering
- Disaster Management
- Inspection & Quality Control (Tata Tech)
- Advanced Automobile (Tata Tech)

Advance Skill Development:

To fulfill the requirements for Advanced Skill Development, a minimum of 20 hours of skill certification is necessary. This certification must be obtained from a recognized national or international agency or institute. The assessment and certification process will be conducted by the respective agency or institute. Students must present their certificate to earn 02 credits for this subject.

B. COMPULSORY SUBJECT OF I & II SEMESTER MECHANICAL ENGINEERING TO BE TAUGHT IN IV Sem. TO ITI PASSED STUDENTS OF TRADES ARE AS FOLLOWS :

TOOL & DIE MAKER(PRESS TOOLS, JIGS & FIXTURES), TOOL & DIE MAKER (DESIGN & MOULDS), MECHANIC MACHINE TOOLS MAINTENANCE), DRAUGHTSMAN (MECHANICAL), MACHINIST, MACHINIST (GRINDER), FITTER, TURNER, MECHANIC(DOMESTIC COMMERCIAL, REFRIGERATION & AC), PRODUCTION& MANUFACTURING SECTOR, AUTOMOBILE SECTOR, REFRIGERATION AND AIRCONDITIONER SECTOR, FABRICATION (FITTING & WELDING), MECHANIC (MOTOR VEHICLE), MECHANIC (AGRICULTURE M/c)

Sr. No.	SUBJECTS	STUDY SCHEME Periods/Week				Credits	MARKS IN EVALUATION SCHEME										TOTAL MARKS OF INTERNAL & EXTERNAL
							INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT							
		L	T	P	Total		Th	Pr	Tot	Th	Hrs	Pr	Hrs	Tot			
2.1	*MATHEMATICS-II	3	1	-	4	4	40	-	40	60	3	-	-	60	100		
2.2	*APPLIED PHYSICS-II	3	-	2	5	4	40	60	100	60	3	40	3	100	200		
Total		6	1	2	9	8	80	60	140	120		40		160	300		

* Common with other diploma programme

Student Centred Activities will comprise of co-curricular activities like extension lectures, self-study, games, hobby clubs e.g. photography etc., seminars, declamation contests, educational field visits, N.C.C., NSS, Cultural Activities, disaster management and safety etc.

Summer Internship (Industrial training) of 4 weeks duration to be organised after 4th semester exams

(*) It is compulsory to appear & to pass in examination From III Semester To VI Semester, But credit/marks will not be included for division and percentage of obtained marks.

(*) Four Semester (Two Years) of Extra Time will be given after diploma curriculum period (If Required) to pass the above paper (1.1 To 1.4 and 2.1 to 2.2) examination (As Per G. O. No. 2221/16-Pra. Shi.-3-2009 Dated 28-08-2009) & Revised G.O. No. 2704/16-Pra.Shi.-3- 2013-46(8)/2002 Dated 09-01-2013 and B.T.E Order No. Pra.Shi.Pa/C.D.C./2022/872021 Dated 21.02.22