STUDY AND EVALUATION SCHEME FOR LATERAL ENTRY AND ITI PASSES STUDENTS
Diploma in Mechanical Engineering(Refrigeration & Air conditioning) (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 alloted 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), DRAUGHTMAN (MECHANICAL), MACHINIST, MACHINIST (GRINDER), FITTER, TURNER, MECHANIC(DOMESTIC COMMERICAL, REFRIGERATION & AC), PRODUCTION & MANUFACTURING SECTOR, AUTOMOBILE SECTOR, REFRICERATION AND AIRCONDITIONER SECTOR, FABRICATION (FITTING & WELDING), MECHANIC (MOTOR VEHICLE), MECHANIC (AGRICULTURE M/c)

Sr. No.	SUBJECTS	STUDY SCHEME Periods/Week				Credits	MARKSINEVALUATIONSCHEME								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(Refrigeration & Air conditioning)(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 ACHINE TOOLS MAINTENANCE), DRAUGHTMAN (MECHANICAL), MACHINIST, MACHINIST (GRINDER), FITTER, TURNER, MECHANIC(DOMESTIC COMMERICAL, REFRIGERATION & AC), PRODUCTION & MANUFACTURING SECTOR, AUTOMOBILE SECTOR, REFRICERATION AND AIRCONDITIONER SECTOR, FABRICATION (FITTING & WELDING), MECHANIC (MOTOR VEHICLE), MECHANIC (AGRICULTURE M/c)

Sr. No.	SUBJECTS	STUDY SCHEME Periods/Week				Credits	MARKSINEVALUATIONSCHEME								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	*APPLIEDPHYSICS-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