

### Diploma in Mechanical/Metallurgy/Mining/Chemical Engineering (Group-IB)

#### Semester-I

Scheme of Studies: Session-2020

S.No	Board of	Course	Course			eme of lours/V	Studies Veek)
	Study	Code	Titles	L	Р	Т	Credit (C) L+T+(P)/2
1	Humanities	2000171(046)	Communication Skills-I	2	-	1	3
2	Applied Science	2000172(014)	Applied Maths-I	2	-	1	3
3	Mechanical Engineering	2000173(037)	Applied Mechanics	2	-	1	3
4	Applied Science	2000178(011)	Applied Chemistry	2	-	1	3
5	Mechanical Engineering	2000177(037)	Engineering Drawing	2	-	1	3
6	Mechanical Engineering	2000180(037)	Workshop Practice (Theory)	1	-	-	1
7	Mechanical Engineering	2000190(037)	Applied Mechanics (Lab)	-	2	-	1
8	Applied Science	2000191(011)	Applied Chemistry (Lab)	-	2	-	1
9	Mechanical Engineering	2000192(037)	Engineering Drawing (Practical)	-	2	-	1
10	Mechanical Engineering	2000193(037)	Workshop Practice (Practical)	-	4	-	2
11	Humanities	2000194(046)	Seminar & Technical Presentation (Listening, Reading & Speaking) Skills	-	2	-	1
12	-	-	Library	-	2	-	-
13	-	-	Co-curricular & Academic Activity Societies	-	2	-	-
		Total		11	16	05	22

L - Lecture,

T - Tutorial,

P - Practical

Lecture (L)→ CI Classroom Instruction (Includes different instructional strategies i.e Lecture and others)

Practical (P)→LI Laboratory Instruction (Includes practical performances in Laboratory workshop, field or other locations using different instructional strategies).

Tutorial (T)→Includes sessional work (SW) (assignment, seminar, mini project etc) & self Learning (SL)

Note: Leftover periods/week (4 periods/week) shall be utilized for Self Learning (SL) purpose.



### Diploma in Mechanical/Metallurgy/Mining/Chemical Engineering (Group-IB)

#### Semester-I

#### **Scheme of Examinations:**

Session-2020

					Sch	neme (	of Exan	nination	
S.No	Board of	Course	Course		Theo	ry	Pract	ical	Total
	Study	Code	Titles	ESE	СТ	TA	ESE	TA	Marks
1	Humanities	2000171(046)	Communication Skills-I	70	20	30	-	-	120
2	Applied Science	2000172(014)	Applied Maths-I	70	20	30	-	-	120
3	Mechanical Engineering	2000173(037)	Applied Mechanics	70	20	30	-	-	120
4	Applied Science	2000178(011)	Applied Chemistry	70	20	30	-	-	120
5	Mechanical Engineering	2000177(037)	Engineering Drawing	70	20	30	-	-	120
6	Mechanical Engineering	2000180(037)	Workshop Practice (Theory)	-	-	30	-	-	30
7	Mechanical Engineering	2000190(037)	Applied Mechanics (Lab)	-	-	-	30	50	80
8	Applied Science	2000191(011)	Applied Chemistry (Lab)	-	-	-	30	50	80
9	Mechanical Engineering	2000192(037)	Engineering Drawing (Practical)	ı	ı	ı	30	50	80
10	Mechanical Engineering	2000193(037)	Workshop Practice (Practical)	-	1	-	50	30	80
11	Humanities	2000194(046)	Seminar & Technical Presentation (Listening, Reading & Speaking) Skills	-	1	-	-	50	50
			350	100	180	140	230	1000	

ESE: End Semester Examination,

CT: Class Test, TA: Teachers Assessment

**Note:** i) TA in Theory includes Sessional work (SW) and Attendance (ATT) with weightage of 70% and 30% of total respectively.

ii) TA in Practical includes performance of PRA, PDA and Viva-Voce with weightage of 50%, 40% and 10% of total respectively.

iii) 85% attendance is essential in each theory and practical subjects to appear in examination.



### Diploma in Mechanical/Metallurgy/Mining/Chemical Engineering (Group-IB)

#### Semester-II

### Scheme of Studies: Session-2020

	Board of	Course	Course			ne of Sti	
S. No.	Board of Study	Course Code	Course Titles		(HO	urs/We	ек) Credit
NO.	Study	Code	rities	L	P	Т	(C) L+T+(P/2
1	Humanities	2000271 (046)	Communication Skills-II	2	-	1	3
2	Applied Science	2000272 (014)	Applied Maths-II	2	-	1	3
3	Civil Engineering	2000273 (020)	Environmental Engineering & Sustainable Development	2	-	1	3
4	Applied Science	2000274 (015)	Applied Physics	2	-	1	3
5	Mechanical Engineering	2000279 (037)	Basic Non-Conventional Energy Sources	1	-	1	2
6	Computer Science and Engineering	2000276 (022)	Computer Fundamentals & Applications	2	-	-	2
7	Applied Science	2000290 (015)	Applied Physics (Lab)	-	2	-	1
8	Mechanical Engineering	2000291 (037)	Basic Non-Conventional Energy Sources (Lab)	-	2	-	1
9	Computer Science and Engineering	2000292 (022)	Computer Fundamentals & Applications (Lab)	-	4	-	2
10	Humanities	2000294 (046)	Seminar & Technical Presentation (Personality Development & Leadership) Skills	-	2	-	1
11	-	-	Library	_	2	_	-
12	-	-	Co-curricular & Academic Activity Societies	-	2	-	-
	Total				14	05	21

L - Lecture, T - Tutorial, P - Practical

Lecture (L) → CI Classroom Instruction (Includes different instructional strategies i.e Lecture and others.)

Practical (P)→ LI Laboratory Instruction (Includes practical performances in Laboratory workshop, field or other locations using different instructional strategies).

Tutorial (T) → Includes sessional work (SW) (assignment, seminar, mini project etc), self Learning (SL)

Note: Leftover periods/week (6 periods/week) shall be utilized for Self Learning (SL) purpose.



### Diploma in Mechanical/Metallurgy/Mining/Chemical Engineering (Group-IB)

#### Semester-II

#### Scheme of Examination:

Session-2020

	Barrel of	Board of Course Course			Sch	eme o	f Exa	minati	on
S. No		Course Code	Course	Т	heory	,	Pra	ctical	Total
140	Study	Code	littes	ESE	СТ	TA	ESE	TA	Marks
1	Humanities	2000271 (046)	Communication Skills-II	70	20	30	-	-	120
2	Applied Science	2000272 (014)	Applied Maths-II	70	20	30	-	-	120
3	Civil Engineering	2000273 (020)	Environmental Engineering & Sustainable Development	70	50	30	-	-	150
4	Applied Science	2000274 (015)	Applied Physics	70	20	30	-	-	120
5	Mechanical Engineering	2000279 (037)	Basic Non-Conventional Energy Sources	ı	ı	70	-	-	70
6	Computer Science and Engineering	2000276 (022)	Computer Fundamentals & Applications	70	20	30	-	-	120
7	Applied Science	2000290 (015)	Applied Physics (Lab)	ı	-	-	30	50	80
8	Mechanical Engineering	2000291 (037)	Basic Non-Conventional Energy Sources (Lab)	-	-	-	30	50	80
9	Computer Science and Engineering	2000292 (022)	Computer Fundamentals & Applications (Lab)	-	-	-	30	50	80
10	Humanities	2000294 (046)	Seminar & Technical Presentation (Personality Development & Leadership) Skills	-	-	-	-	60	60
			350	130	220	90	210	1000	

ESE: End Semester Exam,

CT: Class Test,

TA: Teachers Assessment

**Note:** i) TA in Theory includes Sessional work (SW) and Attendance (ATT) with weightage of 70% and 30% of total respectively.

ii) TA in Practical includes performance of PRA, PDA and Viva-Voce with weightage of 50%, 40% and 10% of total respectively.

iii) 85% attendance is essential in each theory and practical subjects to appear in examination.



### **Diploma in Mechanical Engineering**

#### Semester - III

#### **Scheme of Studies:**

Session-2020

S.	Board of	Course	Course Titles			me of S	
No.	Study	Code		L	Р	Т	Credit L+T+(P/2)
1	Electrical & Electronics Engineering	2037371(025)	Basic Electrical and Electronics	2	ı	1	3
2	Mechanical Engineering	2037372(037)	Strength of Material	2	ı	1	3
3	Mechanical Engineering	2037373(037)	Thermal Engineering	2	-	1	3
4	Mechanical Engineering	2037374(037)	Machine Drawing and Computer Aided Drafting	2	-	1	3
5	Mechanical Engineering	2037375(037)	Material Technology	2	-	1	3
6	Electrical & Electronics Engineering	2037361(025)	Basic Electrical and Electronics (Lab)	-	2	-	1
7	Mechanical Engineering	2037362(037)	Strength of Material (Lab)	-	2	-	1
8	Mechanical Engineering	2037363(037)	Thermal Engineering (Lab)	-	2	-	1
9	Mechanical Engineering	2037364(037)	Machine Drawing and Computer Aided Drafting (Lab)	-	4	-	2
10	Mechanical Engineering	2037365(037)	Material Technology (Lab)	-	2	-	1
11	Humanities	-	Health, Hygiene and Yoga	-	2	-	-
12	-	-	Library	_	2	-	-
		Total	10	16	05	21	

L- Lecture,

**T**- Tutorial,

P- Practical,

Lecture (L)→ CI Classroom Instruction (Includes different instructional strategies i.e Lecture and others).

Practical (P)→LI Laboratory Instruction (Includes practical performances in Laboratory workshop, field or other locations using different instructional strategies).

Tutorial  $(T) \rightarrow$  Includes sessional work (SW) (assignment, seminar, mini project etc), Self Learning (SL).



### **Diploma in Mechanical Engineering**

#### Semester - III

#### **Scheme of Examination:**

Session-2020

S.	Board of	Course	Course Titles		Scl	neme o	f Examin	ation	
No.	Study	Code	Course Titles	1	Theory		Pra	ctical	Total
				ESE	СТ	TA	ESE	TA	Marks
1	Electrical & Electronics Engineering	2037371(025)	Basic Electrical and Electronics	70	20	30	-	-	120
2	Mechanical Engineering	2037372(037)	Strength of Material	70	20	30	-	-	120
3	Mechanical Engineering	2037373(037)	Thermal Engineering	70	20	30	-	-	120
4	Mechanical Engineering	2037374(037)	Machine Drawing and Computer Aided Drafting	70	20	30	-	-	120
5	Mechanical Engineering	2037375(037)	Material Technology	70	20	30	-	-	120
6	Electrical & Electronics Engineering	2037361(025)	Basic Electrical and Electronics (Lab)	-	-	-	30	50	80
7	Mechanical Engineering	2037362(037)	Strength of Material (Lab)	-	-	-	30	50	80
8	Mechanical Engineering	2037363(037)	Thermal Engineering (Lab)	-	-	ı	30	50	80
9	Mechanical Engineering	2037364(037)	Machine Drawing and Computer Aided Drafting (Lab)	-	-	-	30	50	80
10	Mechanical Engineering	2037365(037)	Material Technology (Lab)	-	-	-	30	50	80
	Total				100	150	150	250	1000

ESE: End semester exam

- Note: i. TA in Theory includes Sessional work (SW) and Attendance (ATT) with weightage of 70% and 30% weightage of total respectively.
  - ii. TA in Practical includes performance of PRA, PDA and Viva-voce with weightage of 50%, 40% and 10% weightage of total respectively.
  - iii. 85% attendance is essential in theory & Practical classes to appear in examination.



### **Diploma in Mechanical Engineering**

#### Semester - IV

#### **Scheme of Studies:**

Session-2020

S.	Board of	Course	Course			ne of St ours/Wo	
No.	Study	Code	Titles	L	P	Т	Credit L+T+(P/2)
1	Mechanical Engineering	2037471(037)	Theory of Machines	2	-	1	3
2	Mechanical Engineering	2037472(037)	Manufacturing Process	2	-	1	3
3	Mechanical Engineering	2037473(037)	Industrial Measurements and Controls	2	-	1	3
4	Mechanical Engineering	2037474(037)	Fluid Mechanics and Machinery	2	-	1	3
5	Mechanical Engineering	2037475(037)	Engineering Metrology	2	-	1	3
6	Mechanical Engineering	2037461(037)	Theory of Machines (Lab)	-	2	-	1
7	Mechanical Engineering	2037462(037)	Manufacturing Process (Lab)	-	2	-	1
8	Mechanical Engineering	2037463(037)	Industrial Measurement and Controls(Lab)	-	2	-	1
9	Mechanical Engineering	2037464(037)	Fluid Mechanics and Machinery (Lab)	-	2	-	1
10	Mechanical Engineering	2037465(037)	Engineering Metrology (Lab)	-	2	-	1
11	-	-	Indian Constitution	2	-	ı	1
12	-	-	Library	-	2	-	-
13	13 Humanities - Physical and Mental Fitness		-	2	-	-	
		al	12	14	5	20	

L- Lecture,

T- Tutorial,

P- Practical,

Lecture (L)→ CI Classroom Instruction (Includes different instructional strategies i.e Lecture and others).

Practical (P)→ LI Laboratory Instruction (Includes practical performances in Laboratory workshop, field or other locations using different instructional strategies).

Tutorial  $(T) \rightarrow$  Includes sessional work (SW) (assignment, seminar, mini project etc), Self Learning (SL).



### **Diploma in Mechanical Engineering**

#### Semester - IV

### Scheme of Examination: Session-2020

	Board of	Course	Course Titles		Scl	neme o	f Examin	ation	
S. No.	Study	Code	Course rities	1	heory		Prac	ctical	Total
				ESE	СТ	TA	ESE	TA	Marks
1	Mechanical Engineering	2037471(037)	Theory of Machines	70	20	30	-	1	120
2	Mechanical Engineering	2037472(037)	Manufacturing Process	70	20	30	-	-	120
3	Mechanical Engineering	2037473(037)	Industrial Measurements and Controls	70	20	30	ı	-	120
4	Mechanical Engineering	2037474(037)	Fluid Mechanics and Machinery	70	20	30	ı	1	120
5	Mechanical Engineering	2037475(037)	Engineering Metrology	70	20	30	ı	-	120
6	Mechanical Engineering	2037461(037)	Theory of Machines (Lab)	-	-	-	30	50	80
7	Mechanical Engineering	2037462(037)	Manufacturing Process (Lab)	-	-	-	30	50	80
8	Mechanical Engineering	2037463(037)	Industrial Measurements and Controls (Lab)	-	-	-	30	50	80
9	Mechanical Engineering	2037464(037)	Fluid Mechanics and Machinery (Lab)	-	-	-	30	50	80
10	Mechanical Engineering	2037465(037)	Engineering Metrology (Lab)				30	50	80
		Total		350	100	150	150	250	1000

ESE: End semester exam

CT: Class Test

TA: Teachers Assessment

**Note**:- i. TA in Theory includes Sessional work (SW) and Attendance (ATT) with weightage of 70% and 30% weightage of total respectively.

- ii. TA in Practical includes performance of PRA, PDA and Viva-voce with weightage of 50%, 40% and 10% weightage of total respectively.
- iii. 85% attendance is essential in theory & Practical classes to appear in examination.
- iv. Industrial training of 4 weeks duration will be carried out after completion of IV semester and its evaluation will be done in V semester.



# Diploma in Mechanical Engineering Semester – V

Scheme of Studies: Session-2020

S.	Board of	Course	Course		Sch	neme	of Stu	dies
No.	Study	Code	Titles		(	Hours	/Wee	ek)
				L	Р	Т	SL	Credit (C) L+T+(P/2)
1	Mechanical Engineering	2037571 (037)	Automobile Engineering	2	-	1	*	3
2	Mechanical Engineering	2037572 (037)	Machine Design, Estimation and Costing	2	-	1	*	3
3	Mechanical Engineering	2037573 (037)	Machine Tool Technology	2	-	1	*	3
4	Mechanical Engineering	2037574 (037)	Refrigeration & Air conditioning	2	-	1	*	3
5	Mechanical Engineering	2037575 (037)	Fluid Power Engineering	2	-	1	*	3
6	Mechanical Engineering	2037561 (037)	Automobile Engineering (Lab)	-	2	-	-	1
7	Mechanical Engineering	2037562 (037)	Machine Tool Technology (Lab)	-	2	-	-	1
8	Mechanical Engineering	2037563 (037)	Refrigeration & Air conditioning (Lab)	-	2	-	-	1
9	Mechanical Engineering	2037564 (037)	Fluid Power Engineering (Lab)		2		-	1
10	Mechanical Engineering	2037565 (037)	Industrial Training	-	2	-	-	1
11	Mechanical Engineering		Major Project		2		-	۸
12	Humanities		Library	-	2	-	-	-
	Total					05	-	20

L- Lecture

T- Tutorial,

P- Practical

Lecture (L)  $\rightarrow$  CI- Classroom Instruction (Includes different instructional Strategies i.e. Lecture and others).

Practical (P)→ LI-Laboratory Instruction (Includes practical performances in Laboratory workshop, field or other locations using different instructional strategies).

Tutorial (T)→ Includes sessional work (SW) (assignment, seminar, mini project etc) & Self Learning (SL)

Note: 1)\* Leftover periods/week (07 periods/week) shall be utilized for Self Learning purpose.

07 periods/week i.e. 07 hours/week shall be equally allocated among 5 theory subjects with 1.4 hrs/week each for Self Learning without any credit.

2) ^ One credit for evaluation of Major Project during Vth semester is carried forward to VI semester.



# Diploma in Mechanical Engineering Semester – V

#### Scheme of Examination:

Session-2020

S. No.	Board of	Course	Course		Sc	heme o	f Examir	ation	
NO.	Study	Code	Titles		Theory		Pra	ctical	Total
				ESE	СТ	TA	ESE	TA	Marks
	Mechanical	2037571	Automobile Engineering	70	20	30	_	_	120
1	Engineering	(037)		70	20	30	_	_	120
	Mechanical	2037572	Machine Design,	70	20	30	_		120
2	Engineering	(037)	Estimation and Costing	70	20	30	_	_	120
	Mechanical	2037573	Machine Tool	70	20	30			120
3	Engineering	(037)	Technology	/0	20	30	_	-	120
	Mechanical	2037574	Refrigeration & Air	70	20	30			120
4	Engineering	(037)	conditioning	/0	20	30	_	-	120
	Mechanical	2037575	Fluid Power Engineering	70	20	30			120
5	Engineering	(037)		70	20	30	_	-	120
	Mechanical	2037561	Automobile Engineering				20	Ε0	90
6	Engineering	(037)	(Lab)	_	_	-	30	50	80
	Mechanical	2037562	Machine Tool				20	Ε0	90
7	Engineering	(037)	Technology (Lab)	-	_	_	30	50	80
	Mechanical	2037563	Refrigeration & Air				20		00
8	Engineering	(037)	conditioning (Lab)	_	_	-	30	50	80
	Mechanical	2037564	Fluid Power Engineering				20	50	80
9	Engineering	(037)	(Lab)	_	_	-	30	50	80
	Mechanical	2037565	Industrial Training				F0	30	80
10	Engineering	(037)	Industrial Training	_		-	50	30	80
		Total		350	100	150	170	230	1000

ESE: End of semester exam

CT : Class Test

TA: Teachers Assessment

**Note:** - i TA in Theory includes Sessional work (SW) and Attendance (ATT) with weightage of 70% and 30% of total respectively.

- ii. TA in Practical includes performance of PRA, PDA and Viva-voce with weightage of 50%, 40% and 10% of total respectively.
- iii. 85% attendance is essential in theory & Practical classes to appear in examination.
- iv. Industrial training of 4 weeks duration will be carried out after completion of IV semester. Evaluation of industrial training will be done in V semester.



# Diploma in Mechanical Engineering Semester – VI

Scheme of Studies: Session-2020

S.	Board of	Course	Course Titles				of Stu /Wee	
No	Study	Code		L	Р	Т	SL	Credit L+T+(P)/2
1	Mechanical Engineering	2037671 (037)	Industrial Engineering and Production Management	2	-	1	*	3
2	Mechanical Engineering	2037672 (037)	Power Plant Engineering	2	-	1	*	3
3	Mechanical Engineering	2037674 (037)	Computer Aided Modeling and Manufacturing	1	-	1	*	2
4	Mechanical Engineering	2000673 (037)	Entrepreneurship Development and Management	2	-	1	*	3
5	Mechanical Engineering	2037675 (037)	Industrial Maintenance and Safety	2	-	1	*	3
6	Mechanical Engineering	Refer Table A/B	Elective (Production Group/Thermal Group)	2	-	1	*	3
7	Mechanical Engineering	2037661 (037)	Computer Aided Modeling and Manufacturing (Lab)	-	4	-	-	2
8	Mechanical Engineering	Refer Table A/B	Elective (Production Group/Thermal Group) (Lab)	-	2	-	-	1
9	Mechanical Engineering	2037662 (037)	Major Project	-	2	-	-	2^
10	Humanities		Library	44	2		-	22
		To	otal	11	10	6	-	22

L- Lecture T- Tutorial P- Practical

Lecture (L)→ CI- Classroom Instruction (Includes different instructional Strategies i.e. Lecture and others.)

Practical (P)→ LI-Laboratory Instruction (Includes practical performances in Laboratory workshop, field or other locations using different instructional strategies).

Tutorial (T)→ Includes sessional work (SW) (assignment, seminar, mini project etc) & Self Learning

**Note:** 1)\* Leftover periods/week (09 periods/week) shall be utilized for Self Learning purpose.09 periods/week i.e. 09 hours/week shall be equally allocated among 6 theory subjects with 1.5 hrs/week each for Self Learning without any credit.

- 2) ^ One credit is carried forward from the Vth semester Major Project evaluation.
- 3) (a) **Elective (Production Group):** Jigs , Fixtures and Press Tool Design OR Advance Manufacturing Processes.
  - (b) **Elective (Thermal Group):** Industrial Refrigeration OR Wind and Solar Energy Appliances (Installation, Maintenance & Operation) OR Energy Management and Audit.



# **Elective Subjects of VI Semester**

### **Table A) Elective- (Production Group)**

S.No	Course Code	Course Titles
1	2037681(037)	Jigs, Fixtures and Press Tool Design
2	2037682(037)	Advance Manufacturing Processes
3	2037691(037)	Jigs, Fixtures and Press Tool Design (Lab)
4	2037692(037)	Advance Manufacturing Processes (Lab)

### Table B) Elective- (Thermal Group)

S.No	Course Code	Course Titles
1	2037683(037)	Industrial Refrigeration
2	2037684(037)	Wind and Solar Energy Appliances (Installation, Maintenance & Operation)
3	2037685(037)	Energy Management and Audit
4	2037693(037)	Industrial Refrigeration (Lab)
5	2037694(037)	Wind and Solar Energy Appliances (Installation, Maintenance & Operation) (Lab)
6	2037695(037)	Energy Management and Audit (Lab)



# Diploma in Mechanical Engineering Semester – VI

Scheme of Examination:

Session-2020

	Board of	Course	Course Titles	Scheme of Examination					
S.				Theory			Practical		Total
No	Study	Code		ESE	СТ	TA	ESE	TA	Marks
1	Mechanical	2037671	Industrial Engineering and	70	20	30	_	_	120
	Engineering	(037)	Production Management	70	20	30		_	120
2	Mechanical	2037672	Power Plant Engineering	70	20	30	-	-	120
	Engineering	(037)	Power Plant Engineering						
3	Mechanical	2037674	Computer Aided Modeling	70	20	30	-	-	120
	Engineering	(037)	and Manufacturing						
4	Mechanical	2000673	Entrepreneurship	70	20	30	1	-	120
	Engineering	(037)	Development and						
			Management						
5	Mechanical	2037675	Industrial Maintenance and	70	20	20			420
	Engineering	(037)	Safety	70	20	30	-	-	120
6	Mechanical	Refer Table	Elective (Production		•	2.0			400
	Engineering	A/B	Group/Thermal Group)	70	20	30			120
7	Mechanical	2037661	Computer Aided Modeling	_	-	-	50	30	80
	Engineering	(037)	and Manufacturing (Lab)						
8	Mechanical	Refer Table	Elective (Production	-	-	-	30	50	80
	Engineering	A/B	Group/Thermal Group) (Lab)						
9	Mechanical	2037662	Major Project	-	-	-	80	40	120
	Engineering	(037)							
	Total			420	120	180	160	120	1000

**ESE**: End semester exam

CT : Class Test

**TA**: Teachers Assessment

**Note**: i. TA in Theory includes Sessional work (SW) and Attendance (ATT) with weightage of 70% and 30% of total respectively.

- ii. TA in Practical includes performance of PRA, PDA and Viva-voce with weightage of 50%, 40% and 10% of total respectively. .
- iii. 85% attendance is essential in theory & Practical classes to appear in examination.