West Bengal State Council of Technical & Vocational Education and Skill Development (Technical Education Division)



# Curriculum Structure of

# Diploma in Mechanical Engineering [ME]

Part-II (3<sup>rd</sup> & 4<sup>th</sup> Semester) and Part-III (5<sup>th</sup> & 6<sup>th</sup> Semester)

Revised 2022

#### CURRICULUM STRUCTURE FOR PART-II (SEMESTER 3) OF THE FULL-TIME DIPLOMA COURSES IN MECHANICAL ENGINEERING

BRANCH: MECHANICAL ENGINEERING				Semester 3								
SL No	Category	Code No	Course Title	L	Р	Total Class per week	Credit	Full marks	Internal Marks	ESE Marks		
1	Program core	MEPC201	Mechanical Engineering Drawing	2	-	2	2	100	40	60		
2	Program core	MEPC203	Mechanical Engineering Materials	3	-	3	3	100	40	60		
3	Program core	MEPC205	Strength of Materials	3	-	3	3	100	40	60		
4	Program core	MEPC207	Manufacturing Processes-I	3	-	3	3	100	40	60		
5	Program core	MEPC209	Thermal Engineering -I	3	-	3	3	100	40	60		
6	Program core	MEPC211	Mechanical Engineering Drawing Practice	-	4	4	2	100	60	40		
7	Program core	MEPC213	Materials Testing Lab	-	2	2	1	100	60	40		
8	Program core	MEPC215	Thermal Engineering -I Lab	-	2	2	1	100	60	40		
9	Program core	MEPC217	Manufacturing Processes -I Practice	-	4	4	2	100	60	40		
10	Internship	SI201	Internship-I	-	-	0	1	100	60	40		
STUD	Total 14 12 26 21 1000 500 500   STUDENT CONTACT HOURS PER WEEK: 26 hours (Lecture-14 hours: Practical-12 hours)									500		
Th												

Theory and Practical Period of 60 minutes each.

FULL MARKS-1000 (Internal Marks-500; ESE Marks-500)

L-Lecture, P-Practical, ESE- End Semester Examination

<b>Credit Distribution</b>	Credit
Program Core	20
Internship 1	1
Total	21

### CURRICULUM STRUCTURE FOR PART-II (SEMESTER 4) OF THE FULL-TIME DIPLOMA COURSES IN MECHANICAL ENGINEERING

BRANCH: MECHANICAL ENGINEERING				SEMESTER 4							
SL No	Category	Code No	Course Title	L	Ρ	Total Class per week	Credit	Full marks	Internal Marks	ESE Marks	
1	Program Core	MEPC202	Theory of Machine	3		3	3	100	40	60	
2	Program Elective	MEPE202	Program Elective	2		2	2	100	40	60	
3	Program Core	MEPC204	Manufacturing Process-II	3		3	3	100	40	60	
4	Program Core	MEPC206	Thermal Engineering-II	3		3	3	100	40	60	
5	Program Core	MEPC208	Engineering Metrology	3		3	3	100	40	60	
6	Program Core	MEPC210	Computer Aided Machine Drawing Practice		3	3	1.5	100	60	40	
7	Program Core	MEPC212	Thermal Engineering-II Lab		2	2	1	100	60	40	
8	Program Core	MEPC214	Engineering Metrology and Mechanical Measurement Lab		2	2	1	100	60	40	
9	Program Core	MEPC216	Manufacturing Processes-II Practice		2	2	1	100	60	40	
10	Minor Project	PR202	Minor Project		3	3	1.5	100	60	40	
Total 1					12	26	20	1000	500	500	
STUD Theor FULL L-Lect	STUDENT CONTACT HOURS PER WEEK: 26 hours (Lecture-14 hours; Practical-12 hours) Theory and Practical Period of 60 minutes each FULL MARKS-1000 (Internal Marks-500; ESE Marks-500) L-Lecture, P-Practical, ESE- End Semester Examination										

Credit Distribution	Credit
Program Elective	2
Program Core	16.5
Minor Project	1.5
Total	20

Program Elective ( Any one)	Total Credit
1. Refrigeration & Air Conditioning (Sub code: MEPE202/1)	2
2.Tool Engineering (Sub code: MEPE202/2)	2

### CURRICULUM STRUCTURE FOR PART-III (SEMESTER 5) OF THE FULL-TIME DIPLOMA COURSES IN MECHANICAL ENGINEERING

BRANCH: MECHANICAL ENGINEERING				SEMESTER 5							
SL No	Category	Code No	Course Title	L	Ρ	Total Class per week	Credit	Full marks	Internal Marks	ESE Marks	
1	Program Core	MEPC301	Power Engineering	3		3	3	100	40	60	
2	Program Core	MEPC303	Advanced Manufacturing Processes	3		3	3	100	40	60	
3	Program Core	MEPC309	Fluid Mechanics and Machinery	3		3	3	100	40	60	
4	Program Elective	MEPE301	Program Elective (withoutLab)	2		2	2	100	40	60	
5	Program Elective	MEPE303	Program Elective (with Lab)	2		2	2	100	40	60	
6	Program Core	MEPC311	Power Engineering Lab		2	2	1	100	60	40	
7	Program Core	MEPC313	Advance Manufacturing Processes Lab		2	2	1	100	60	40	
8	Program Core	MEPC315	Fluid Mechanics and Machinery Lab		2	2	1	100	60	40	
9	Program Elective	MEPE305	Program Elective Lab (for Sl. No. 5)		2	2	1	100	60	40	
10	Major Project	PR301	Major Project		2	2	1	100	60	40	
11	Internship	SI301	Internship - II	-	-		1	100	100	0	
Total 13 10 23 19 1100 600 500								500			
STUDENT CONTACT HOURS PER WEEK: 26 hours (Lecture-16 hours; Practical-10 hours)											
Theor	Theory and Practical Period of 60 minutes each.										
L-Lect	L-Lecture. P-Practical. ESE- End Semester Examination										

Credit Distribution	Credit
Program Core	12
Program Elective	5
Project	1
Internship 2	1
Total	19

Program Elective (without Lab)	Total Credit	
1. Power Plant Engineering (Sub code: MEPE301/1)	Any	2
2. Material Handling System (Sub code: MEPE301/2)	one	2
Program Elective (with Lab)		
1. Computer Aided Design & Manufacturing (Sub code: MEPE303/1)	Any	2
2. Automobile Engineering (Sub code: MEPE303/2)	one	5

### CURRICULUM STRUCTURE FOR PART-III (SEMESTER 6) OF THE FULL-TIME DIPLOMA COURSES IN MECHANICAL ENGINEERING

BRANCH: MECHANICAL ENGINEERING				SEMESTER 6							
SL No	Category	Code No	Course Title	L	Ρ	Total Class per week	Credit	Full marks	Internal Marks	ESE Marks	
1	Program Core	MEPC302	Design of Machine Elements	3		3	3	100	40	60	
2	Program Core	MEPC304	Work, Organization& Management	3		3	3	100	40	60	
3	Program Elective	MEPE302	Program Elective (with Lab)	2		2	2	100	40	60	
4	Humanities and Social Science	HS302	Entrepreneurship and start-ups	3		3	3	100	40	60	
5	Open Elective	MEOE302	Open Elective (compulsory)	3		3	3	100	40	60	
6	Open Elective	MEOE304	Open Elective	3		3	3	100	40	60	
7	Program Elective	MEPE304	Program Elective Lab		2	2	1	100	60	40	
8	Major Project	PR302	Major Project		6	6	3	100	60	40	
9	Seminar	SE302	Seminar	1		1	1	100	100	0	
Total				18	8	26	22	900	460	440	
STUD	STUDENT CONTACT HOURS PER WEEK: 26hours (Lecture-18 hours; Practical-8 hours)										

Theory and Practical Period of 60 minutes each.

FULL MARKS-900 (Internal Marks-460; ESE Marks-440)

L-Lecture, P-Practical, ESE- End Semester Examination

Credit Distribution	Credit
Program Core	6
Program Elective	3
Open Elective	6
Major Project + Seminar	4
Humanities and Social Science	3
Total	22

SI. No.	Program Elective (with Lab)	Credit	
1.	Mechatronics (Sub code: MEPE302/1)	A 1914 0 19 0	2
2.	Oil Hydraulics & Pneumatics (Sub code: MEPE302/2)	Any one	3

SI. No.	Open Elective	Credit	
1.	Engineering Economics Project Management ( <i>Compulsory for all Branc</i> [Sub code: MEOE302]	3	
2.	Electrical Machines& Controls(Sub code: MEOE304/1)	Any one	з
3.	Environment Engineering & Science(Sub code: MEOE304/2)		5

List of Program Core Subjects for Different Semesters				
SI.No.	Category	Semester	Title of Course	Credit
1	Program Core	Sem 3	Mechanical Engineering Drawing	2
2	Program Core	Sem 3	Mechanical Engineering Materials	
3	Program Core	Sem 3	Strength of Materials	3
4	Program Core	Sem 3	Manufacturing Processes- I	3
5	Program Core	Sem 3	Thermal Engineering - I	3
6	Program Core	Sem 3	Mechanical Engineering Drawing Practice	2
7	Program Core	Sem 3	Materials Testing Lab	1
8	Program Core	Sem 3	Thermal Engineering-I Lab	1
9	Program Core	Sem 3	Manufacturing Processes-I Practice	2
10	Program Core	Sem 4	Theory of Machine	3
11	Program Core	Sem 4	Manufacturing Process-II	3
12	Program Core	Sem 4	Thermal Engineering -II	3
13	Program Core	Sem 4	Engineering Metrology	
14	Program Core	Sem 4	Computer Aided Machine Drawing Practice	
15	Program Core	Sem 4	Thermal Engineering -II Lab 1	
16	Program Core	Sem 4	Engineering Metrology and Mechanical 1 Measurement Lab	
17	Program Core	Sem 4	Manufacturing Process-II Practice 1	
18	Program Core	Sem5	Power Engineering 3	
19	Program Core	Sem 5	Advanced Manufacturing Processes 3	
20	Program Core	Sem5	Work, Organisation & Management 3	
21	Program Core	Sem5	Fluid Mechanics and Machinery 3	
22	Program Core	Sem5	Power Engineering Lab 1	
23	Program Core	Sem5	Advance Manufacturing Processes Lab 1	
24	Program Core	Sem5	Fluid Mechanics and MachineryLab	1
25	Program Core	Sem 6	Design of Machine Elements	3
	1	1	Total:	54.5

#### FULL-TIME DIPLOMA COURSES IN MECHANICAL ENGINEERING

List of	Program Elective (PE) Subjects	Semester		Credit
	1. Computer Aided Design & Manufacturing	5	Δην Οηο	3
With Lab	2. Automobile Engineering	5	Any One	
Semester)	3. Mechatronics	6	Δην Οηο	3
	4. Oil Hydraulics & Pneumatics	6	Any One	
	1. Refrigeration & Air Conditioning	4	Any One	2
Without Lab	2.Tool Engineering	4	Any One	
Semester)	3. Power Plant Engineering	5	Δην Οηο	2
	4. Material Handling System	5	Any One	

#### FULL-TIME DIPLOMA COURSES IN MECHANICAL ENGINEERING

Total: 10

List of Open Elective (OE) Subjects			Credit
Any one for Semester 6	1. Electrical Machines & Controls		2
	2. Environment Engineering & Science	Any one 3	
Compulsory for Semester 6 1. Engineering Economics & Project Management		3	
Total:			6

Semester wise and course category wise credit distribution					
	53	<b>S</b> 4	S5	<b>S6</b>	Total
Program Core	20	16.5	12	6	54.5
Program Elective		2	5	3	10
Open Elective				6	6
Project + Internship + Seminar	1	1.5	2	4	8.5
Humanities and Social Science				3	3
Semester wise Total	21	20	19	22	82
Total credit allotted in S3, S4, S5 & S6:				82	
Total credit allotted in SEM 1 & 2:			38		
Grand Total:			120		

#### Semester wise marks distribution:

Semester wise Marks Distribution				
Semester 3	1000			
Semester 4	1000			
Semester 5	1100			
Semester 6	900			

Total: 4000