

**FPROGRAMME-DIPLOMA IN MECHANICAL ENGINEERING  
PROGRAMME STRUCTURE  
SCHEME AT A GLANCE**

Level	Name of Level	Number of Courses offered	Number of Courses to be Completed	TH	TU	PR	Total Credits	Marks
Level-1	Foundation Courses	10	10 Compulsory	16	01	20	27	1000
Level-2	Basic Technology Courses	08	08 Compulsory	21	--	16	29	1000
Level-3	Allied Courses	07	05 (04 Compulsory & 01 Electives)	06	---	08	10	275
Level-4	Applied Technology Courses	07	07 Compulsory	14	--	46	35	1025
Level-5	Diversified Courses	11	05 (03 Compulsory & 02 Electives)	15	---	08	19	700
<b>TOTAL</b>		<b>43</b>	<b>32 Compulsory + 3 Electives -- 35</b>	<b>72</b>	<b>01</b>	<b>98</b>	<b>120</b>	<b>4000</b>
<b>Grand Total</b>		<b>43</b>	<b>35</b>					

**Abbreviations:**

TH: Theory, TU: Tutorial, PR: Practical.

Credit Ratio: TH:PR = 42.69: 57.31

TH:PR Weightage wise ratio: 62.5: 37.5

Class award Weightage: TH: PR: 58.82: 41.18

**PROGRAMME-DIPLOMA IN MECHANICAL ENGINEERING**  
**PROGRAMME STRUCTURE**  
**LEVEL-1**  
**FOUNDATION COURSES**

Sr. No.	Course Code	Course Title	Course Abbr.	TEACHING SCHEME				EXAMINATION SCHEME						
				TH	TU	PR	Total Credits	Theory Paper		Test	PR	OR	TW	Total
								Hrs	Mark					
01	21101	Communication Skills	CMS	02	--	02	03	03	80	20	--	--	50	150
02	21102	Engineering Mathematics	EMT	02	01	--	03	03	80	20	--	--	--	100
03	21103	Applied Mathematics	AMT	03	--	--	03	03	80	20	--	--	--	100
04	21104	Applied Physics	PHY	03	--	02	04	02	80#	20#	--	--	50	150
05	21105	Applied Chemistry	CHY	03	--	02	04	02	80#	20#	--	--	50	150
06	21106	Fundamentals of Electrical & Electronics Engineering	FEE	--	--	02	01	--	--	--	--	--	50	50
07	21107	Engineering Graphics	EGR	--	--	04	02	--	--	--	--	--	50	50
08	21108	Engineering Mechanics	EMH	03	--	02	04	03	80	20	--	--	50	150
09	21109	Workshop Practice	WSP	--	--	04	02	--	--	--	--	--	50	50
10	21110	Introduction to IT System	ITS	--	--	02	01	--	--	--	--	--	50	50
<b>TOTAL</b>			--	<b>16</b>	<b>01</b>	<b>20</b>	<b>27</b>	<b>16</b>	<b>480</b>	<b>120</b>	--	--	<b>400</b>	<b>1000</b>

**Level: 1**

Total courses : 10  
 Total Credits : 27  
 Total marks : 1000

**Abbreviations:**

Abbr: Course Abbreviation, TH: Theory, TU: Tutorial, PR: Practical, OR: Oral, TW: Term Work, #: Online Examination

**Course code Indication:**

First two digits : Indicates last digit of Year of Implementation of Curriculum  
 Second digit : Indicates Level.  
 Third & Fourth digit : Indicates Course Number.

**Assessment of PR / OR / TW:**

- 1) All orals and practical are to be assessed by external & internal examiners.
- 2) TW are to be assessed by internal examiners.

**PROGRAMME-DIPLOMA IN MECHANICAL ENGINEERING  
PROGRAMME STRUCTURE  
LEVEL-2  
BASIC TECHNOLOGY COURSES**

Sr. No.	Course Code	Course Title	Course Abbr	TEACHING SCHEME				EXAMINATION SCHEME						
				TH	TU	PR	Total Credits	Theory Paper		Test	PR	OR	TW	Total
								Hrs	Mark					
1	21209	Thermal Engineering	TEG	03	--	02	04	03	80	20	--	--	25	125
2	21210	Engineering Drawing	EDG	02	--	02	03	04	80	20	--	--	25	125
3	21211	Strength of Materials	SOM	03	--	02	04	03	80	20	--	--	25	125
4	21212	Fluid Mechanics and Hydraulics Machinery	FMM	03	--	02	04	03	80	20	--	--	25	125
5	21213	Theory of Machines and Mechanisms	TOM	03	--	02	04	03	80	20	--	--	25	125
6	21214	Manufacturing Processes	MPR	03	--	02	04	03	80	20	--	--	25	125
7	21215	Mechanical Engineering Materials	MEM	02	--	02	03	03	80	20	--	--	25	125
8	21216	Mechanical Engineering drawing	MED	02	--	02	03	04	80	20	--	--	25	125
<b>TOTAL</b>				<b>21</b>	<b>--</b>	<b>16</b>	<b>29</b>	<b>26</b>	<b>640</b>	<b>160</b>	<b>--</b>	<b>--</b>	<b>200</b>	<b>1000</b>

**Level: 2**

Total Courses : 08  
Total Credits : 29  
Total Marks : 1000

**Abbreviations:**

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**Assessment of PR / OR / TW:**

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- 2) TW are to be assessed by internal examiners.

**PROGRAMME-DIPLOMA IN MECHANICAL ENGINEERING  
PROGRAMME STRUCTURE  
LEVEL-3  
ALLIED COURSES**

Sr. No.	Course Code	Course Title	Course Abbr	TEACHING SCHEME				EXAMINATION SCHEME						
				TH	TU	PR	Total Credits	Theory Paper		Test	PR	OR	TW	Total
								Hrs	Mark					
1	21301	Entrepreneurship and Start-ups	EPS	01	--	02	02	--	--	--	--	--	50	50
2	21303	Programming and Problem Solving	PPO	01	--	02	02	--	--	--	--	--	50	50
3	21308	Industrial Organization and Management	IOM	03	--	--	03	03	80	20	--	--	--	100
4	21309	Computer Aided Drafting	CDR	--	--	02	01	--	--	--	--	--	25	25
<b>Elective I: Any ONE of the following</b>														
5	21305	Artificial Intelligence	ARI	01	---	02	02	---	---	---	---	---	50	50
	21306	Internet of Things	IOT	01	---	02	02	---	---	---	---	---	50	50
	21307	Computer Application	CAN	01	---	02	02	---	---	---	---	---	50	50
<b>TOTAL</b>				<b>06</b>	<b>---</b>	<b>08</b>	<b>10</b>	<b>03</b>	<b>80</b>	<b>20</b>	<b>---</b>	<b>---</b>	<b>175</b>	<b>275</b>

**Level: 3**

Total Courses : 05  
Total Credits : 10  
Total Marks : 275

**Abbreviations:**

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**Assessment of PR / OR / TW:**

- 1) All orals & practicals are to be assessed by external & internal examiners.
- 2) TW are to be assessed by internal examiners.

**PROGRAMME-DIPLOMA IN MECHANICAL ENGINEERING  
PROGRAMME STRUCTURE  
LEVEL-4  
APPLIED TECHNOLOGY COURSES**

Sr. No.	Course Code	Course Title	Course Abbr	TEACHING SCHEME				EXAMINATION SCHEME						
				TH	TU	PR	Total Credits	Theory Paper		Test	PR	OR	TW	Total
								Hrs	Mark					
1	21410	Industrial Training	ITR	--	--	32	14	--	--	--	--	100	100	200
2	21411	Project	PRO	--	--	04	02	--	--	--	--	50	50	100
3	21412	Engineering Metrology	EMR	03	--	02	04	03	80	20	25	--	25	150
4	21413	Instrumentation and control	INC	02	--	02	03	03	80	20	--	--	25	125
5	21414	Design of Machine Elements	DME	03	--	02	04	04	80	20	---	25	25	150
6	21415	Power Engineering	PEG	03	--	02	04	03	80	20	--	25	25	150
7	21416	Advanced Manufacturing Processes	AMP	03	--	02	04	03	80	20	25	--	25	150
<b>TOTAL</b>				<b>14</b>	<b>--</b>	<b>46</b>	<b>35</b>	<b>16</b>	<b>400</b>	<b>100</b>	<b>50</b>	<b>200</b>	<b>275</b>	<b>1025</b>

**Level: 4**

Total Courses : 07  
Total Credits : 35  
Total Marks : 1025

**Abbreviations:**

Abbr: Course Abbreviation, TH: Theory, TU: Tutorial, PR: Practical, OR: Work

**Assessment of PR / OR / TW:** Oral, TW: Term

- 1) All orals and practical are to be assessed by external & internal examiners.
- 2) TW are to be assessed by internal examiners.

**PROGRAMME-DIPLOMA IN MECHANICAL ENGINEERING  
PROGRAMME STRUCTURE  
LEVEL-5  
DIVERSIFIED COURSES**

Sr. No.	Course Code	Course Title	Course Abbr.	TEACHING SCHEME				EXAMINATION SCHEME						
				TH	TU	PR	Total Credits	Theory Paper		Test	PR	OR	TW	Total
								Hrs.	Mark					
1	21505	Industrial Hydraulics and Pneumatics	IHP	03	--	02	04	03	80	20	25	--	25	150
2	21506	Mechatronics and Industrial Automation	MIA	03	--	02	04	03	80	20	--	25	25	150
3	21507	Industrial Engineering	IEN	03	--	--	03	03	80	20	--	--	--	100
<b>Elective II: Any Two of the following</b>														
04 and 05	21508	Automobile Engineering	AEG	03	--	02	04	03	80	20	---	25	25	150
	21509	Refrigeration and Air conditioning	RAC	03	--	02	04	03	80	20	---	25	25	150
	21510	Heat Transfer	HTR	03	--	02	04	03	80	20	---	25	25	150
	21511	Power Plant Engineering	PPE	03	--	02	04	03	80	20	---	25	25	150
	21512	Tool Engineering	TLE	03	--	02	04	03	80	20	---	25	25	150
	21513	Farm Equipment and Machineries	FEM	03	--	02	04	03	80	20	---	25	25	150
	21514	Hybrid Vehicles	HYV	03	--	02	04	03	80	20	---	25	25	150
<b>TOTAL</b>				<b>15</b>	<b>---</b>	<b>08</b>	<b>19</b>	<b>15</b>	<b>400</b>	<b>100</b>	<b>25</b>	<b>75</b>	<b>100</b>	<b>700</b>

**Level: 5**

Total Courses : 05  
Total Credits : 19  
Total Marks : 700

**Assessment of PR / OR / TW:**

- 1) All orals and practical are to be assessed by external & internal examiners.
- 2) TW are to be assessed by internal examiners.

**PROGRAMME-DIPLOMA IN MECHANICAL ENGINEERING  
PROGRAMME STRUCTURE  
AUDIT COURSES**

<b>Sr. No.</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Course Abbr</b>	<b>Contact Hours Per Week (TH)</b>	<b>Contact Hours Per Week (PR)</b>	<b>Total Contact Hours Per Week</b>
1	21001	Environmental science	EVS	2	--	2
2	21002	Sports and Yoga	SPY	--	2	2
3	21003	Essence of Indian Knowledge and Tradition	IKT	2	--	2
4	21004	Indian Constitution	ICN	2	--	2

Total Courses : 04  
Total Credits : Nil  
Total Marks : --

**PROGRAMME-DIPLOMA IN MECHANICAL ENGINEERING**

**Courses for Award of Class**

Sr. No.	Course code	Course Title	Course Abbr	TEACHING SCHEME				EXAMINATION SCHEME						
				TH	TU	PR	Total Credits	Theory Paper		Test	PR	OR	TW	Total
								Hrs	Mark					
01	21308	Industrial Organization and Management	IOM	03	--	--	03	03	80	20	--	--	--	100
02	21410	Industrial Training	INT	--	--	32	14	--	--	--	--	100	100	200
03	21411	Project	PRO	--	--	04	02	--	--	--	--	50	50	100
04	21412	Engineering Metrology	EMR	03	--	02	04	03	80	20	25	--	25	150
05	21414	Design of Machine Elements	DME	03	--	02	04	04	80	20	--	25	25	150
06	21415	Power Engineering	PEG	03	--	02	04	03	80	20	--	25	25	150
07	21416	Advanced Manufacturing Processes	AMP	03	--	02	04	03	80	20	25	--	25	150
08	21505	Industrial Hydraulics and Pneumatics	IHP	03	--	02	04	03	80	20	25	--	25	150
09	21506	Mechatronics and Industrial Automation	MIA	03	--	02	04	03	80	20	--	25	25	150
10	21507	Industrial Engineering	IEN	03	--	--	03	03	80	20	--	--	--	100
<b>Any TWO from Elective II</b>														
11 and 12	21508	Automobile Engineering	AEG	03	--	02	04	03	80	20	---	25	25	150
	21509	Refrigeration and Air conditioning	RAC	03	--	02	04	03	80	20	---	25	25	150
	21510	Heat Transfer	HTR	03	--	02	04	03	80	20	---	25	25	150
	21511	Power Plant Engineering	PPE	03	--	02	04	03	80	20	---	25	25	150
	21512	Tool Engineering	TLE	03	--	02	04	03	80	20	---	25	25	150
	21513	Farm Equipment and Machineries	FEM	03	--	02	04	03	80	20	---	25	25	150
	21514	Hybrid Vehicles	HYV	03	--	02	04	03	80	20	---	25	25	150
<b>TOTAL</b>				<b>30</b>	<b>--</b>	<b>52</b>	<b>54</b>	<b>31</b>	<b>800</b>	<b>200</b>	<b>75</b>	<b>275</b>	<b>350</b>	<b>1700</b>

Total Courses : 12  
 Total Credits : 54  
 Total Marks : 1700

**Assessment of PR / OR / TW:**

- 1) All orals and practical are to be assessed by external & internal examiners.
- 2) TW are to be assessed by internal examiners.



**PROGRAMME-DIPLOMA IN MECHANICAL ENGINEERING  
SAMPLE PATH  
ENTRY LEVEL-10+**

Nature of Course	First Year		Second Year		Third Year		Total
	Odd Term	Even Term	Odd Term	Even Term	Odd Term	Even Term	
<b>Compulsory</b>	21101 (03) CMS	21103 (03) AMT	21209 (04) TEG	21211 (04) SOM	21308 (03) IOM	21410 (14) ITR	
	21102 (03) EMT	21104 (4) PHY	21212 (04) FMM	21412 (04) EMR	21411 (02) PRO		
	21105 (04) CHY	21106 (01) FEE	21213 (04) TOM	21413 (03) INC	21414 (04) DME		
	21107 (02) EGR	21108 (04) EMH	21214 (04) MPR	21415 (04) PEG	21416 (04) AMP		
	21109 (02) WSP	21210 (03) EDG	21215 (03) MEM	21507 (03) IEN	21505 (04) IHP		
	21110 (01) ITS	21303 (02) PPS	21216 (03) MED		21506 (04) MIA		
		21307 (1) CDR	21301(02) EPS				
<b>Total Credit (Compulsory)</b>	<b>15</b>	<b>18</b>	<b>24</b>	<b>18</b>	<b>21</b>	<b>14</b>	<b>110</b>
<b>Elective</b>				Any <b>ONE</b> course from <b>Elective I</b> 21305 ARI 21306 IOT 21307 CAN (02) Any <b>ONE</b> course from <b>Elective II</b> 21508 AEG, 21509 RAC, 21510 HTR, 21511 PPE, 21512 TLE, 21513 FEM, 21514 HYV : (04)	Any <b>ONE</b> course from <b>Elective II</b> 21508 AEG, 21509 RAC, 21510 HTR, 21511 PPE, 21512 TLE, 21513 FEM, 21514 HYV : (04)		
<b>Total Credit (Elective)</b>	--	--	--	<b>06</b>	<b>04</b>	--	<b>10</b>
<b>Total courses</b>	<b>06</b>	<b>07</b>	<b>07</b>	<b>07</b>	<b>07</b>	<b>01</b>	<b>35</b>
<b>Audit Courses</b>	<b>SPY (00)</b>	<b>EVS (00)</b>		<b>IKT (00)</b>		<b>ICN (00)</b>	
<b>Total Credit (Elective + Compulsory)</b>	<b>15</b>	<b>18</b>	<b>24</b>	<b>24</b>	<b>25</b>	<b>14</b>	<b>120</b>
<b>Grand Total of Credits</b>							<b>120</b>

**Note: Figures in bracket indicates total credits.**

**PROGRAMME-DIPLOMA IN MECHANICAL ENGINEERING  
SAMPLE PATH  
ENTRY LEVEL-10+**

Nature of Course	First Year		Second Year		Third Year		Total
	Odd Term	Even Term	Odd Term	Even Term	Odd Term	Even Term	
<b>Compulsory</b>	21101 (04) CMS	21103 (03) AMT	21209 (05) TEG	21211 (05) SOM	21308 (03) IOM	21410 (14) INT	
	21102 (04) EMT	21104 (05) PHY	21212 (05) FMM	21412 (05) EMR	21411 (04) PRO		
	21105 (05) CHY	21106 (02) FEE	21213 (05) TOM	21413 (04) INC	21414 (05) DME		
	21107 (04) EGR	21108 (05) EMH	21214 (05) MPR	21415 (05) PEG	21416 (05) AMP		
	21109 (04) WSP	21210 (04) EDG	21215 (04) MEM	21507 (03) IEN	21505 (05) IHP		
	21110 (02) ITS	21303 (03) PPS	21216 (04) MED		21506 (05) MIA		
		21307 (02) CDR	21301 (03) EPS				
<b>Total Hours (Compulsory)</b>	<b>23</b>	<b>24</b>	<b>31</b>	<b>22</b>	<b>27</b>	<b>32</b>	<b>159</b>
<b>Elective</b>				Any <b>ONE</b> course from <b>Elective I</b> 21305 ARI 21306 IOT 21307 CAN (03) Any <b>ONE</b> course from <b>Elective II</b> 21508 AEG, 21509 RAC, 21510 HTR, 21511 PPE, 21512 TLE, 21513 FEM, 21514 HYV : (05)	Any <b>ONE</b> course from <b>Elective II</b> 21508 AEG, 21509 RAC, 21510 HTR, 21511 PPE, 21512 TLE, 21513 FEM, 21514 HYV : (05)		
<b>Total Hours (Elective)</b>	--	--	--	<b>08</b>	<b>05</b>	--	<b>13</b>
<b>Total courses</b>	<b>06</b>	<b>07</b>	<b>07</b>	<b>07</b>	<b>07</b>	<b>01</b>	<b>35</b>
<b>Audit Courses</b>	<b>SPY (00)</b>	<b>EVS (00)</b>		<b>IKT (00)</b>	<b>IKN (00)</b>		
<b>Total Credit (Elective + Compulsory)</b>	<b>23</b>	<b>24</b>	<b>31</b>	<b>30</b>	<b>32</b>	<b>32</b>	<b>172</b>
<b>Grand Total of Hours</b>							<b>172</b>

**Note: Figures in bracket indicates total hours allotted.**