

# Mohan Lal Sukhadia University Udaipur



## B. Tech. Program (Effective from session 2021-2022)

### Mechanical Engineering

Semesters III - VIII

### Course structure

**Teaching & Examination Scheme  
Semester III**

<b>THEORY</b>											
SN	Category	Course		Contact hrs/week			Marks				Cr
		Code	Title	L	T	P	Exm Hrs	IA	ETE	Total	
1	BSC	BT3ME01-CT01	Advance Engineering Mathematics-I	3	0	0	3	30	120	150	3
2	HSMC	BT3ME02-CT02	Technical Communication	2	0	0	2	20	80	100	2
3	ESC	BT3ME03-CT03	Engineering Mechanics	2	0	0	2	20	80	100	2
4	PCC	BT3ME04-CT04	Engineering Thermodynamics	3	0	0	3	30	120	150	3
5		BT3ME05-CT06	Materials Science and Engineering	3	0	0	3	30	120	150	3
6		BT3ME06-CT06	Mechanics of Solids	3	1	0	3	40	160	200	4
<b>Sub Total</b>				16	1	0		170	680	850	17
<b>PRACTICAL &amp; SESSIONAL</b>											
7	PCC	BT3ME07-CP01	Machine drawing practice	0	0	4		40	60	100	2
8		BT3ME08-CP02	Materials Testing Lab	0	0	4		40	60	100	2
9		BT3ME09-CP03	Basic Mechanical Engineering Lab	0	0	2		20	30	50	1
10		BT3ME10-CP04	Programming using MATLAB	0	0	4		40	60	100	2
11	PSIT	BT3ME11-CP05	Industrial Training	0	0	1		0	0	50	1
<b>Sub- Total</b>				0	0	15		140	210	400	8
<b>TOTAL OF III SEMESTER</b>				16	1	15		310	890	1250	25

*L: Lecture, T: Tutorial, P: Practical, Cr: Credits*

*ETE: End Term Exam, IA: Internal Assessment*

**Teaching & Examination Scheme  
Semester IV**

<b>THEORY</b>											
SN	Category	Course		Contact hrs/week			Marks				Cr
		Code	Title	L	T	P	Exm Hrs	IA	ETE	Total	
1	BSC	BT4ME01-CT01	Advance Engineering Mathematics-II	2	0	0	2	20	80	<b>100</b>	<b>2</b>
2	HSMC	BT4ME02-CT02	Managerial Economics and Financial Accounting	2	0	0	2	20	80	<b>100</b>	<b>2</b>
3	ESC	BT4ME03-CT03	Digital Electronics	2	0	0	2	20	80	<b>100</b>	<b>2</b>
4	PCC	BT4ME04-CT04	Fluid Mechanics and Fluid Machines	3	1	0	3	40	160	<b>200</b>	<b>4</b>
5		BT4ME05-CT05	Manufacturing Processes	3	0	0	3	30	120	<b>150</b>	<b>3</b>
6		BT4ME06-CT06	Theory of machines	3	1	0	3	40	160	<b>200</b>	<b>4</b>
<b>Sub Total</b>				15	2	0		170	680	<b>850</b>	<b>17</b>
<b>PRACTICAL &amp; SESSIONAL</b>											
7	PCC	BT4ME07-CP01	Digital Electronics lab	0	0	2		20	30	<b>50</b>	<b>1</b>
8		BT4ME08-CP02	Fluid Mechanics lab	0	0	4		40	60	<b>100</b>	<b>2</b>
9		BT4ME09-CP03	Production practice lab	0	0	4		40	60	<b>100</b>	<b>2</b>
10		BT4ME10-CP04	Theory of machines Lab	0	0	4		40	60	<b>100</b>	<b>2</b>
<b>Sub- Total</b>				0	0	14		140	210	<b>350</b>	<b>7</b>
<b>TOTAL OF IV SEMESTER</b>				15	2	14		310	890	<b>1200</b>	<b>24</b>

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**Teaching & Examination Scheme  
Semester V**

<b>THEORY</b>											
SN	Category	Course		Contact hrs/week			Marks				Cr
		Code	Title	L	T	P	Exam Hrs	IA	ETE	Total	
1	ESC	BT5ME01-CT01	Mechatronic Systems	2	0	0	2	20	80	100	2
2	PCC/ PEC	BT5ME02-CT02	Heat Transfer	3	0	0	3	30	120	150	3
3		BT5ME03-CT03	Manufacturing Technology	3	0	0	3	30	120	150	3
4		BT5ME04-CT04	Design of Machine Elements I	3	0	0	3	30	120	150	3
5		BT5ME05-CT05	Principles of Management	2	0	0	2	20	80	100	2
6		Professional Elective I (any one)		3	0	0	3	30	120	150	3
		BT5ME06-CT06A	Steam Engineering								
		BT5ME06-CT06B	Automobile Engineering								
		BT5ME06-CT06C	Non Destructive Evaluation & Testing								
		<b>Sub Total</b>		<b>16</b>	<b>0</b>	<b>0</b>		<b>160</b>	<b>640</b>	<b>800</b>	<b>16</b>
<b>PRACTICAL &amp; SESSIONAL</b>											
7	ESC	BT5ME07-CP01	Mechatronic Lab	0	0	2		20	30	50	1
8	PCC	BT5ME08-CP02	Heat Transfer lab	0	0	4		40	60	100	2
9		BT5ME09-CP03	Production Engineering Lab	0	0	4		40	60	100	2
10		BT5ME10-CP04	Machine Design Practice I	0	0	2		20	30	50	1
11	PSIT	BT5ME11-CP05	Industrial Training	0	0	1		40	60	100	2
		<b>Sub- Total</b>		<b>0</b>	<b>0</b>	<b>13</b>		<b>160</b>	<b>240</b>	<b>400</b>	<b>8</b>
		<b>TOTAL OF V SEMESTER</b>		<b>16</b>	<b>0</b>	<b>13</b>		<b>320</b>	<b>880</b>	<b>1200</b>	<b>24</b>

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**Teaching & Examination Scheme  
Semester VI**

<b>THEORY</b>											
SN	Category	Course		Contact hrs/week			Marks				Cr
		Code	Title	L	T	P	Exm Hrs	IA	ETE	Total	
1	ESC	BT6ME01-CT01	Measurement and Metrology	2	0	0	2	20	80	100	2
2	PCC/ PEC	BT6ME02-CT02	CIMS	3	0	0	3	30	120	150	3
3		BT6ME03-CT03	Mechanical Vibrations	3	0	0	3	30	120	150	3
4		BT6ME04-CT04	Design of Machine Elements II	3	0	0	3	30	120	150	3
5		BT6ME05-CT05	Quality Management	3	0	0	3	30	120	150	3
6		Professional Elective II (any one)		3	0	0	3	30	120	150	3
		BT6ME06-CT06A	Refrigeration and Air Conditioning								
		BT6ME06-CT06B	NON Conventional Machining Methods								
	BT6ME06-CT06C	MEMS and Microsystems									
		<b>Sub Total</b>		<b>17</b>	<b>0</b>	<b>0</b>		<b>170</b>	<b>680</b>	<b>850</b>	<b>17</b>
<b>PRACTICAL &amp; SESSIONAL</b>											
7	PCC	BT6ME07-CP01	CIMS Lab	0	0	3		40	60	100	2
8		BT6ME08-CP02	Vibration Lab	0	0	3		40	60	100	2
9		BT6ME09-CP03	Machine Design Practice II	0	0	3		40	60	100	2
10		BT6ME10-CP04	Thermal Engineering Lab I	0	0	3		40	60	100	2
		<b>Sub- Total</b>		<b>0</b>	<b>0</b>	<b>12</b>		<b>160</b>	<b>240</b>	<b>400</b>	<b>8</b>
		<b>TOTAL OF VI SEMESTER</b>		<b>17</b>	<b>0</b>	<b>12</b>		<b>330</b>	<b>920</b>	<b>1250</b>	<b>25</b>

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**Teaching & Examination Scheme  
Semester VII**

<b>THEORY</b>											
SN	Category	Course		Contact hrs/week			Marks				Cr
		Code	Title	L	T	P	Exm Hrs	IA	ETE	Total	
1	PEC	BT7ME01-CT01A	I. C. Engines	3	0	0	3	30	120	150	3
2		BT7ME01-CT01B	Operations Research								
3		BT7ME01-CT01C	Turbomachines								
4	OE	BT7ME02-CEXX	Open Elective-I	3	0	0	3	30	120	150	3
			<b>Sub Total</b>	<b>6</b>	<b>0</b>	<b>0</b>		<b>60</b>	<b>240</b>	<b>300</b>	<b>6</b>
<b>PRACTICAL &amp; SESSIONAL</b>											
5	PCC	BT7ME03-CP01	FEA Lab	0	0	2		20	30	50	1
6		BT7ME04-CP02	Thermal Engineering Lab II	0	0	3		40	60	100	2
7		BT7ME05-CP03	Quality Control Lab	0	0	2		20	30	50	1
8	PSIT	BT7ME06-CP04	Industrial Training *	1	0	0		60	90	150	3
9		BT7ME07-CP05	Seminar *	2	0	0		40	60	100	2
			<b>Sub- Total</b>	<b>3</b>	<b>0</b>	<b>8</b>		<b>255</b>	<b>195</b>	<b>450</b>	<b>9</b>
			<b>TOTAL OF VII SEMEESTER</b>	<b>9</b>	<b>0</b>	<b>8</b>		<b>315</b>	<b>435</b>	<b>750</b>	<b>15</b>

\*for the purpose of counting teaching load

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**Teaching & Examination Scheme  
Semester VIII**

<b>THEORY</b>											
SN	Category	Course		Contact hrs/week			Marks				Cr
		Code	Title	L	T	P	Exm Hrs	IA	ETE	Total	
1	PEC	BT8ME01-CT01A	Hybrid and Electric Vehicles	3	0	0	3	30	120	150	3
2		BT8ME01-CT01B	Supply and Operations Management								
3		BT8ME01-CT01C	Additive Manufacturing								
4	OE	BT8ME02-CEXX	Open Elective - II	3	0	0	3	30	120	150	3
			<b>Sub Total</b>	<b>6</b>	<b>0</b>	<b>0</b>		<b>60</b>	<b>240</b>	<b>300</b>	<b>6</b>
<b>PRACTICAL &amp; SESSIONAL</b>											
5	PCC	BT8ME03-CP01	Industrial Engineering Lab	0	0	2		20	30	50	1
6		BT8ME04-CP02	Metrology Lab	0	0	2		20	30	50	1
7	PSIT	BT8ME05-CP03	Project *#	3	0	0		140	210 #	350	7
			<b>Sub- Total</b>	<b>3</b>	<b>0</b>	<b>4</b>		<b>180</b>	<b>270</b>	<b>450</b>	<b>9</b>
			<b>TOTAL OF VIII SEMEESTER</b>	<b>9</b>	<b>0</b>	<b>4</b>		<b>240</b>	<b>510</b>	<b>750</b>	<b>15</b>

\*for the purpose of counting teaching load

#Evaluation by one internal and one external examiner (External examiner will preferably be from Industry)

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