



BIKANER TECHNICAL UNIVERSITY, BIKANER

बीकानेर तकनीकी विश्वविद्यालय, बीकानेर

OFFICE OF THE DEAN ACADEMICS



SCHEME OF UNDERGRADUATE DEGREE COURSE

Mechanical Engineering



Effective for the students admitted in year 2021-22 and onwards.

Office: Bikaner Technical University, Bikaner
Karni Industrial Area, Pugal Road, Bikaner-334004

Website: <https://btu.ac.in>

**B.Tech. : Mechanical Engineering**
2nd Year - III Semester

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THEORY											
SN	Category	Course Code	Course Title	Hours			Marks			Credit	
				L	T	P	IA	ETE	Total		
1	DC	3ME4-01	Engineering Thermodynamics	3	1	0	30	70	100	4	
2		3ME4-02	Materials Engineering and Technology	2	0	0	30	70	100	2	
3		3ME4-03	Manufacturing Processes	3	0	0	30	70	100	3	
4		3ME4-04	Mechanics of Solids	3	1	0	30	70	100	4	
5		3ME4-05	Renewable Energy Systems	3	0	0	30	70	100	3	
6	UC	3ME2-01	Engineering Mechanics	3	0	0	30	70	100	3	
Sub Total				17	2	0	180	420	600	19	
PRACTICAL & SESSIONAL											
7	DC	3ME4-20	Machine Drawing Practice	0	0	3	60	40	100	1.5	
8		3ME4-21	Production Practice Lab	0	0	3	60	40	100	1.5	
9		3ME4-22	Materials Testing Lab	0	0	2	60	40	100	1	
10	UI	3ME7-30	Professional Training	0	0	2*	60	40	100	1	
11	CCA	3ME8-00	SODECA/NCC/NSS/ ANANDAM/IPR	-	-	-	-	100	100	1	
Sub- Total				0	0	10	240	260	500	6	
TOTAL OF III SEMESTER				17	2	10	420	680	1100	25	

L = Lecture, **T** = Tutorial, **P** = Practical, **IA**=Internal Assessment, **ETE**=End Term Exam, **Cr**=Credits

*for calculation of contact hours

**B.Tech. : Mechanical Engineering**
2nd Year - IV Semester

THEORY										
SN	Category	Course Code	Course Title	Hours			Marks			Credit
				L	T	P	IA	ETE	Total	
1	DC	4ME4-01	Theory of Machines-I	3	1	0	30	70	100	4
2		4ME4-02	Fluid Mechanics	3	1	0	30	70	100	4
3		4ME4-03	Internal Combustion Engines and Gas Turbines	3	0	0	30	70	100	3
4		4ME4-04	Industrial Engineering	3	0	0	30	70	100	3
5		4ME4-05	Manufacturing Technology-I	3	0	0	30	70	100	3
6	UC	4ME2-01	Advanced Engineering Mathematics	3	0	0	30	70	100	3
Sub Total				18	2	0	180	420	600	20
PRACTICAL & SESSIONAL										
7	DC	4ME4-20	Theory of Machines Lab-I	0	0	2	60	40	100	1
8		4ME4-21	Fluid Mechanics Lab	0	0	2	60	40	100	1
9		4ME4-22	MATLAB Programming	0	0	2	60	40	100	1
10		4ME4-23	Production Engineering Lab	0	0	2	60	40	100	1
11	CCA	4ME8-00	SODECA/NCC/NSS/ ANANDAM/IPR	-	-	-	-	100	100	1
Sub- Total				0	0	8	240	260	500	5
TOTAL OF IV SEMESTER				18	2	8	420	680	1100	25

L = Lecture, **T** = Tutorial, **P** = Practical, **IA**=Internal Assessment, **ETE**=End Term Exam, **Cr**=Credits

*for calculation of contact hours

**B.Tech. : Mechanical Engineering
3rd Year - V Semester**

THEORY										
SN	Category	Course code	Course Title	Hours			Marks			Credit
				L	T	P	IA	ETE	Total	
1	DC	5ME4-01	Theory of Machines-II	3	1	0	30	70	100	4
2		5ME4-02	Heat Transfer	3	1	0	30	70	100	4
3		5ME4-03	Machine Design-I	3	0	0	30	70	100	3
4		5ME4-04	Manufacturing Technology- II	3	0	0	30	70	100	3
5	DE	DE-I		2	0	0	30	70	100	2
		5ME5-11	Automobile Engineering							
		5ME5-12	Fuels and Combustions							
		5ME5-13	Additive manufacturing							
		5ME5-14	Mechatronics							
6	DE	DE-II		2	0	0	30	70	100	2
		5ME5-16	Entrepreneurship Development							
		5ME5-17	Surface Engineering							
		5ME5-18	Lean Manufacturing							
		5ME5-19	Introduction to Total Quality Management and reliability							
		5ME5-20	Composite Materials							
Sub Total				16	2	0	180	420	600	18
PRACTICAL & SESSIONAL										
7	DC	5ME4-20	Manufacturing Technology Lab	0	0	2	60	40	100	1
8		5ME4-21	Theory of Machines Lab- II	0	0	2	60	40	100	1
9		5ME4-22	Heat Transfer Lab	0	0	2	60	40	100	1
10		5ME4-23	Machine Design Practice-I	0	0	2	60	40	100	1
11	UI	5ME7-30	Industrial Training	0	0	2*	60	40	100	3
12	CCA	5ME8-00	SODECA/NCC/NSS/ ANANDAM/IPR	-	-	-	-	100	100	1
Sub- Total				0	0	10	300	300	600	8
TOTAL OF V SEMESTER				16	2	10	480	720	1200	26

L = Lecture, T = Tutorial, P = Practical, IA=Internal Assessment, ETE=End Term Exam, Cr=Credits

*for calculation of contact hours

**B.Tech. : Mechanical Engineering
3rd Year - VI Semester**

THEORY										
S.N.	Category	Course Code	Course Title	Hours			Marks			Credit
				L	T	P	IA	ETE	Total	
1	DC	6ME4-01	Turbo Machines	3	1	0	30	70	100	4
2		6ME4-02	Control System & Advanced Measurement Theory	3	1	0	30	70	100	4
3		6ME4-03	Machine Design-II	3	0	0	30	70	100	3
4		6ME4-04	Refrigeration and Air Conditioning	3	0	0	30	70	100	3
5	DE		DE-III (Any one)	2	0	0	30	70	100	2
		6ME5-11	Non-Destructive Testing							
		6ME5-12	Power Generation							
		6ME5-13	Robotics and Automation							
		6ME5-14	Principles of Management							
		6ME5-15	Alternative Fuels							
6ME5-16	Operation Management									
Sub Total				14	2	0	150	350	500	16
PRACTICAL & SESSIONAL										
6	DC	6ME4-20	Machine Design Practice-II	0	0	2	60	40	100	1
7		6ME4-21	Turbo Machine Lab	0	0	2	60	40	100	1
8		6ME4-22	Thermal Engineering Lab	0	0	2	60	40	100	1
9		6ME4-23	Automation Lab	0	0	2	60	40	100	1
10	UI	6ME7-50	Mini Project			4*	60	40	100	2
11	CCA	6ME8-00	SODECA/NCC/NSS/ ANANDAM/IPR	-	-	-	-	100	100	2
SUB TOTAL				0	0	12	300	300	600	8
TOTAL OF VI SEMESTER				14	2	12	450	650	1100	24

L = Lecture, T = Tutorial, P = Practical, IA=Internal Assessment, ETE=End Term Exam, Cr=Credits

*for calculation of contact hours

**B.Tech. : Mechanical Engineering
4th Year - VII Semester**

THEORY										
SN	Category	Course Code	Course Title	Hours			Marks			Credit
				L	T	P	IA	ETE	Total	
1	DC	7ME4-01	Finite Element Methods	2	0	0	30	70	100	2
2	DE		DE-IV(Any one)	2	0	0	30	70	100	2
		7ME5-11	System Monitoring and Fault Diagnosis							
		7ME5-12	Plasticity and Metal Forming							
		7ME5-13	Fundamentals of Machine Learning							
		7ME5-14	Gas Dynamics and Jet propulsion							
		7ME5-15	Machine Tool Design							
		7ME5-16	Computer Oriented Numerical Methods							
		7ME5-17	Computational Fluid Dynamics							
3	UE		University Elective I	3	0	0	30	70	100	3
SUB TOTAL				7	0	0	90	210	300	7
PRACTICAL & SESSIONAL										
4	DC	7ME4-20	Python Lab	0	0	2	60	40	100	1
5		7ME4-21	Modeling and Simulation Lab	0	0	2	60	40	100	1
6	UI	7ME7-30	Industrial Training	0	0	2*	60	40	100	3
7		7ME7-50	Project Stage-I	0	0	4*	60	40	100	2
8	CCA	7ME8-00	SODECA/NCC/NSS/ ANANDAM/IPR	-	-	-	-	100	100	1
				0	0	10	240	260	500	8
TOTAL OF VII SEMESTER				7	0	10	330	470	800	15

L = Lecture, T = Tutorial, P = Practical, IA=Internal Assessment, ETE=End Term Exam, Cr=Credits

*for calculation of contact hours

**B.Tech. : Mechanical Engineering
4th Year - VIII Semester**

THEORY										
SN	Category	Course Code	Course Title	Hours			Marks			Credit
				L	T	P	IA	ETE	Total	
1	UE		University Elective II	3	0	0	30	70	100	3
SUB TOTAL				3	0	0	30	70	100	3
PRACTICAL & SESSIONAL										
2	UI	8ME7-50	Project stage- II	0	0	4*	60	40	100	4
3		8ME7-40	Seminar	0	0	2*	60	40	100	2
4	CCA	8ME8-00	SODECA/NCC/NSS/ ANANDAM/IPR	-	-	-	-	100	100	2
SUB TOTAL				0	0	6	120	180	300	8
TOTAL OF VIII SEMESTER				3	0	6	150	250	400	11

L = Lecture, T = Tutorial, P = Practical, IA=Internal Assessment, ETE=End Term Exam, Cr=Credits

*for calculation of contact hours