



**SARVAJANIK
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Sarvajani University
Sarvajani College of Engineering and Technology
Mechanical Engineering Department
Bachelor of Technology



SEMESTER 1/SEMESTER 2											
Sr. No.	Category	Subject Code	Subject Name	Teaching Scheme (In Hours)			Total Credit	Total Hour	Evaluation Scheme (Marks)		
				L	T	P			CCE	SEE	Total
1	MC	BTMD27101	Induction Program	--	--	--	0	21 Days	--	--	0
2	HSMC	BTAS20101	Technical Communication	2	0	0	2	2	50	50	100
3	HSMC	BTAS20102	Technical Communication Lab	0	0	2	1	2	25	25	50
4	HSMC	BTAS20103	Universal Human Values	2	0	0	2	2	50	50	100
5	ESC	BTCH22101	Energy and Environmental Engineering	2	0	0	2	~2	50	50	100
6	ESC	BTCH22102	Energy and Environmental Engineering Lab	0	0	2	1	2	25	25	50
7	ESC	BTCL22101	Civil Engineering Techniques	2	0	0	2	2	50	50	100
8	ESC	BTCL22102	Civil Engineering Techniques Lab	0	0	2	1	2	25	25	50
9	ESC	BTCO22101	Python Programming	2	0	0	2	2	50	50	100
10	ESC	BTCO22102	Python Programming Lab	0	0	2	1	2	25	25	50
11	ESC	BTEL22101	Basic Electrical Engineering	3	0	0	3	3	50	50	100
12	ESC	BTEL22102	Basic Electrical Engineering Lab	0	0	2	1	2	25	25	50
13	ESC	BTGN22101	Design Thinking	0	0	2	1	2	25	25	50
14	ESC	BTME22101	Engineering Graphics and Design	1	0	0	1	1	25	25	50
15	ESC	BTME22102	Engineering Graphics and Design Lab	0	0	4	2	4	50	50	100
16	ESC	BTME22103	Basic Mechanical Engineering	3	0	0	3	3	50	50	100
17	ESC	BTME22104	Basic Mechanical Engineering Lab	0	0	2	1	2	25	25	50
18	ESC	BTME22105	Manufacturing Practices and Workshop	0	0	2	1	2	25	25	50
19	ESC	BTME22106	Mechanical Engineering Workshop	0	0	2	1	2	25	25	50
20	BSC	BTAS21105	Mathematics – 1	3	1	0	4	4	50	50	100
21	BSC	BTAS21108	Physics - Introduction to Mechanics & Thermodynamics	2	0	0	2	2	50	50	100
22	BSC	BTAS21109	Physics - Introduction to Mechanics & Thermodynamics Lab	0	0	2	1	2	25	25	50
23	BSC	BTAS21201	Mathematics – 2	3	1	0	4	4	50	50	100
24	BSC	BTAS21101	Engineering Chemistry	2	0	0	2	2	50	50	100
25	BSC	BTAS21102	Engineering Chemistry Lab	0	0	2	1	2	25	25	50
TOTAL				27	2	26	42	55	900	900	1800





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SEMESTER 3											
Sr. No.	Category	Subject Code	Subject Name	Teaching Scheme (In Hours)			Total Credit	Total Hour	Evaluation Scheme (Marks)		
				L	T	P			CCE	SEE	Total
1	MC	BTMD27301	Indian Constitution	2	0	0	0	2	50	--	50
2	HSMC	BTAS20301	Fundamentals of Management for Engineers	3	0	0	3	3	50	50	100
3	ESC	BTME22301	Materials Science and Metallurgy	2	0	0	2	2	50	50	100
4	ESC	BTME22302	Materials Science and Metallurgy Lab	0	0	2	1	2	25	25	50
5	PCC	BTME23301	Engineering Thermodynamics	3	0	0	3	3	50	50	100
6	PCC	BTME23302	Engineering Thermodynamics Lab	0	0	2	1	2	25	25	50
7	PCC	BTME23303	Manufacturing Processes – 1	3	0	0	3	3	50	50	100
8	PCC	BTME23304	Manufacturing Processes – 1 Lab	0	0	2	1	2	25	25	50
9	PCC	BTME23305	Strength of Material	3	0	0	3	3	50	50	100
10	PCC	BTME23306	Strength of Material Lab	0	0	2	1	2	25	25	50
11	MOOC	BTME233##M	MOOC Course – 1	3	0	0	3	3	50	50	100
TOTAL				19	0	8	21	27	450	400	850

SEMESTER 4											
Sr. No.	Category	Subject Code	Subject Name	Teaching Scheme (In Hours)			Total Credit	Total Hour	Evaluation Scheme (Marks)		
				L	T	P			CCE	SEE	Total
1	MC	BTMD27601	IKS – 1/NEP course from online portal	2	0	0	0	2	50	--	50
2	BSC	BTAS21403	Residue Methods and Partial Differential Equations	3	1	0	4	4	50	50	100
3	OEC	BTXX254##	Open Elective – 1	3	0	0	3	3	50	50	100
4	PCC	BTME23401	Fluid Mechanics	3	0	0	3	3	50	50	100
5	PCC	BTME23402	Fluid Mechanics Lab	0	0	2	1	2	25	25	50
6	PCC	BTME23403	Kinematics & Theory of Machines	3	0	0	3	3	50	50	100
7	PCC	BTME23404	Kinematics & Theory of Machines Lab	0	0	2	1	2	25	25	50
8	PCC	BTME23405	Manufacturing Processes – 2	3	0	0	3	3	50	50	100
9	PCC	BTME23406	Manufacturing Processes – 2 Lab	0	0	2	1	2	25	25	50
10	PCC	BTME23407	Mechanical Measurement and Metrology	3	0	0	3	3	50	50	100
11	PCC	BTME23408	Mechanical Measurement and Metrology Lab	0	0	2	1	2	25	25	50
12	PCC	BTME23409	Solid Modelling	0	0	2	1	2	25	25	50
13	MOOC	BTME234##M	MOOC Course – 2	3	0	0	3	3	50	50	100
14	MOOC	BTME234##M	MOOC Course – 3	3	0	0	3	3	50	50	100
15	PROJ	BTMD26401	Summer Internship / Training / Project – 1	--	-	--	--	--	--	--	--
TOTAL				26	1	10	30	37	575	525	1100





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SEMESTER 5											
Sr. No.	Category	Subject Code	Subject Name	Teaching Scheme (In Hours)			Total Credit	Total Hour	Evaluation Scheme (Marks)		
				L	T	P			C	H	CCE
1	MC	BTMD27701	IKS – 2/ NEP course from online portal	2	0	0	0	2	50	--	50
2	HSMC	BTGN20501	Foundation of Research and Innovation	2	1	0	3	3	50	50	100
3	OEC	BTXX255##	Open Elective – 2	3	0	0	3	3	50	50	100
4	PCC	BTME23501	Dynamics of Machinery	3	0	0	3	3	50	50	100
5	PCC	BTME23502	Dynamics of Machinery Lab	0	0	2	1	2	25	25	50
6	PCC	BTME23503	Fluid Power Engineering	3	0	0	3	3	50	50	100
7	PCC	BTME23504	Fluid Power Engineering Lab	0	0	2	1	2	25	25	50
8	PCC	BTME23505	Heat Transfer	3	0	0	3	3	50	50	100
9	PCC	BTME23506	Heat Transfer Lab	0	0	2	1	2	25	25	50
10	PEC	BTME245##	Professional Elective – 1	3	0	0	3	3	50	50	100
11	PEC	BTME247##	Professional Elective – 4	3	0	0	3	3	50	50	100
12	PEC	BTME247##	Professional Elective – 4 Lab	0	0	2	1	2	25	25	50
TOTAL				22	1	8	25	31	500	450	950

SEMESTER 6											
Sr. No.	Category	Subject Code	Subject Name	Teaching Scheme (In Hours)			Total Credit	Total Hour	Evaluation Scheme (Marks)		
				L	T	P			C	H	CCE
1	OEC	BTXX256##	Open Elective – 3	3	0	0	3	3	50	50	100
2	PCC	BTME23601	Industrial Drafting and Fundamentals of Machine Design	3	0	0	3	3	50	50	100
3	PCC	BTME23602	Industrial Drafting and Fundamentals of Machine Design Lab	0	0	2	1	2	25	25	50
4	PCC	BTME23603	Heating, Ventilation, and Air Conditioning	3	0	0	3	3	50	50	100
5	PCC	BTME23604	Heating, Ventilation, and Air Conditioning Lab	0	0	2	1	2	25	25	50
6	PEC	BTME246##	Professional Elective – 2	3	0	0	3	3	50	50	100
7	PEC	BTME246##	Professional Elective – 3	3	0	0	3	3	50	50	100
8	PEC	BTME246##	Professional Elective – 3 Lab	0	0	2	1	2	25	25	50
9	PROJ	BTME26601	Project – 1	0	0	4	2	4	50	50	100
10	MOOC	BTME236##M	MOOC Course – 4	3	0	0	3	3	50	50	100
11	MOOC	BTME236##M	MOOC Course – 5	3	0	0	3	3	50	50	100
12	PROJ	BTMD26601	Summer Internship / Training / Project – 2	--	-	--	--	--	--	--	--
TOTAL				21	0	10	26	31	475	475	950





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SEMESTER 7											
Sr. No.	Category	Subject Code	Subject Name	Teaching Scheme (In Hours)			Total Credit	Total Hour	Evaluation Scheme (Marks)		
				L	T	P			CCE	SEE	Total
1	PROJ	BTME26701	Project – 2	0	0	8	4	8	50	50	100
2	PROJ	BTME26801	Project – 3/Internship	0	0	24	12	24	100	100	200
TOTAL				0	0	32	16	32	150	150	300





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OPEN ELECTIVE COURSE

SEMESTER 4											
Open Elective Course-1											
Sr. No.	Course Category	Subject Code	Subject Name	Teaching Scheme (In Hours)			Total Credit	Total Hour	Evaluation Scheme (Marks)		
				L	T	P			C	H	CCE
1	OEC-1	BTME25401	Engineering Thermodynamics	3	0	0	3	3	50	50	100
2		BTME25402	Fluid Mechanics	3	0	0	3	3	50	50	100
3		BTME25403	Manufacturing Processes	3	0	0	3	3	50	50	100
4		BTME25404	Materials Science and Metallurgy	3	0	0	3	3	50	50	100
5		BTME25405	Mechanical Measurement and Metrology	3	0	0	3	3	50	50	100

SEMESTER 5											
Open Elective Course-2											
Sr. No.	Course Category	Subject Code	Subject Name	Teaching Scheme (In Hours)			Total Credit	Total Hour	Evaluation Scheme (Marks)		
				L	T	P			C	H	CCE
1	OEC-2	BTME25501	Computer Aided Drawing	3	0	0	3	3	50	50	100
2		BTME25502	Heating, Ventilation and Air Conditioning	3	0	0	3	3	50	50	100
3		BTME25503	Industrial Safety	3	0	0	3	3	50	50	100
4		BTME25504	Power Plant Engineering	3	0	0	3	3	50	50	100
5		BTME25505	Engineering Optimization	3	0	0	3	3	50	50	100

SEMESTER 6											
Open Elective Course-3											
Sr. No.	Course Category	Subject Code	Subject Name	Teaching Scheme (In Hours)			Total Credit	Total Hour	Evaluation Scheme (Marks)		
				L	T	P			C	H	CCE
1	OEC-3	BTME25601	Energy Conservation and Management	3	0	0	3	3	50	50	100
2		BTME25602	Oil, Hydraulics and Pneumatics	3	0	0	3	3	50	50	100
3		BTME25603	Renewable Energy Engineering	3	0	0	3	3	50	50	100





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PROFESSIONAL ELECTIVE COURSE

SEMESTER 5											
Professional Elective Course-1 (Fluid) & Professional Elective Course-4 (Manufacturing)											
Sr. No.	Course Category	Subject Code	Subject Name	Teaching Scheme (In Hours)			Total Credit	Total Hour	Evaluation Scheme (Marks)		
				L	T	P			CCE	SEE	Total
1	PEC-1	BTME24511	Oil, Hydraulics and Pneumatics	3	0	0	3	3	50	50	100
2		BTME24512	Gas Dynamics	3	0	0	3	3	50	50	100
3		BTME24513	Compressors, Fans and Blowers	3	0	0	3	3	50	50	100
4	PEC-4	BTME24711	Industrial and Quality Engineering	3	0	0	3	3	50	50	100
5		BTME24712	Industrial and Quality Engineering Lab	0	0	2	1	2	25	25	50
6		BTME24713	Production Technology	3	0	0	3	3	50	50	100
7		BTME24714	Production Technology Lab	0	0	2	1	2	25	25	50
8		BTME24715	Advance Manufacturing Processes	3	0	0	3	3	50	50	100
9		BTME24716	Advance Manufacturing Processes Lab	0	0	2	1	2	25	25	50

SEMESTER 6											
Professional Elective Course-2 (Others) & Professional Elective Course-3 (Energy)											
Sr. No.	Course Category	Subject Code	Subject Name	Teaching Scheme (In Hours)			Total Credit	Total Hour	Evaluation Scheme (Marks)		
				L	T	P			CCE	SEE	Total
1	PEC-2	BTME24611	Safety and Maintenance Engineering	3	0	0	3	3	50	50	100
2		BTME24612	Process Planning and Cost Estimation	3	0	0	3	3	50	50	100
3		BTME24613	Valuation of Plants and Machineries	3	0	0	3	3	50	50	100
4		BTME24614	Operation Research	3	0	0	3	3	50	50	100
5	PEC-3	BTME24615	Renewable Energy Engineering	3	0	0	3	3	50	50	100
6		BTME24616	Renewable Energy Engineering Lab	0	0	2	1	2	25	25	50
7		BTME24617	Energy Conservation and Management	3	0	0	3	3	50	50	100
8		BTME24618	Energy Conservation and Management Lab	0	0	2	1	2	25	25	50
9		BTME24619	Biomass Energy Conversion	3	0	0	3	3	50	50	100
10		BTME24620	Biomass Energy Conversion Lab	0	0	2	1	2	25	25	50

