FACULTY OF MECHANICAL ENGINEERING

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4 year Curriculum structure

Undergraduate Degree in Engineering & Technology
Branch / course: Mechanical Engineering

Total credits (4 year course): 173

I. Induction Program (Please refer Appendix-A for guidelines)

Induction program **(mandatory)**	**3 weeks duration** (Please refer Appendix-A for guidelines & also details available in the curriculum of Mandatory courses)
Induction program for students to be offered right at the start of the first year.	Physical activity Creative Arts Universal Human Values Literary Proficiency Modules Lectures by Eminent People Visits to local Areas Familiarization to Dept./Branch & Innovations

Semester-wise structure of Curriculum

[L= Lecture, T = Tutorials, P = Practicals & C = Credits]

JAGANNATH UNIVERSITY
BACHELOR OF TECHNOLOGY
MECHANICAL ENGINEERING

COMMON TO ALL BRANCHES
FIRST SEMESTER

Theory Papers			**Course Category**	**No. of Teaching Hours**			**Marks Allocation**					
Code	**Type of Course**	**Course Title**		**L**	**T**	**P**	**Theory**		**Practical**			
							IA	**EA**	**IA**	**EA**	**Total**	**Credits**
BTME 101	Basic Science Courses	Physics (Semi-Conductor Physics)	BSC	3	1	4	30	70	20	30	150	6
BTME 102	Basic Science Courses	Mathematics-I (Calculus & Linear Algebra)	BSC	3	1	0	30	70	-	-	100	4
BTME 103	Engineering Science Courses	Basic Electrical Engineering	ESC	3	1	2	30	70	20	30	150	5
BTME 104	Engineering Science Courses	Engineering Graphics and Design	ESC	1	0	4	20	30	20	30	100	3
BTME 105	Engineering Science Courses	Computer Fundamentals	ESC	3	0	0	30	70	-	-	100	3
BTME 106	Humanities & Social Sciences including Management	English and Communication Skills	HSMC	3	0	0	20	30	20	30	100	3
BTME 107	Engineering Science Courses	Workshop/ Manufacturing Practices	ESC	0	0	2	-	-	20	30	50	1
TOTAL				**16**	**3**	**12**					**750**	**25**

JAGANNATH UNIVERSITY
BACHELOR OF TECHNOLOGY
MECHANICAL ENGINEERING

COMMON TO ALL BRANCHES
SECOND SEMESTER

Theory Papers			Course Category	No. of Teaching Hours			Marks Allocation					
Code	**Type of Course**	**Course Title**		**L**	**T**	**P**	**Theory**		**Practical**			
							IA	**EA**	**IA**	**EA**	**Total**	**Credits**
BTME 201	Basic Science Courses	Chemistry-I	BSC	3	1	4	30	70	20	30	150	6
BTME 202	Basic Science Courses	Mathematics-II (Probablity and Statistics)	BSC	3	1	0	30	70	-	-	100	4
BTME 203	Engineering Science Courses	Programming for Problem Solving	ESC	3	0	4	30	70	20	30	150	5
BTME 204	Engineering Science Courses	Workshop/ Manufacturing Practices	ESC	1	0	4	-	-	30	70	100	3
BTME 205	Humanities & Social Sciences including Management	English	HSMC	3	0	0	20	30	20	30	100	3
TOTAL				**13**	**2**	**12**					**600**	**21**

JAGANNATH UNIVERSITY
BACHELOR OF TECHNOLOGY
MECHANICAL ENGINEERING

SEMESTER III

Theory Papers			**No. of Teaching Hours**			**Marks Allocation**					
Code	**Category**	**Course Title**	**L**	**T**	**P**	**Theory**		**Practical**			
						IA	**EA**	**IA**	**EA**	**Total**	**Credits**
BTME 301	Engineering Science courses	Machine Drawing	3	0	0	30	70	-	-	100	3
BTME 302	Basic Science Courses	Mathematics III (PDE, Probability & Statistics)	3	0	0	30	70	-	-	100	3
BTME 303	Basic Science Courses	Biology	2	1	0	30	70	-	-	100	3
BTME 304	Engineering Science courses	Basic Electronics Engineering	3	0	2	30	70	20	30	150	4
BTME 305	Engineering Science courses	Engineering Mechanics	3	1	2	30	70	20	30	150	5
BTME 306	Professional Core courses	Thermodynamics	3	1	0	30	70	-	-	100	4
Total			17	3	4					700	22

JAGANNATH UNIVERSITY
BACHELOR OF TECHNOLOGY
MECHANICAL ENGINEERING

SEMESTER IV

Theory Papers			No. of Teaching Hours			Marks Allocation					
Code	**Category**	**Course Title**	**L**	**T**	**P**	**Theory**		**Practical**			
						IA	**EA**	**IA**	**EA**	**Total**	**Credits**
BTME 401	Professional Core courses	Applied Thermodynamics	3	1	0	30	70	-	-	100	4
BTME 402	Professional Core courses	Fluid Mechanics & Fluid Machines	3	0	2	30	70	20	30	150	4
BTME 403	Professional Core courses	Strength of Materials	3	0	2	30	70	20	30	150	4
BTME 404	Engineering Science courses	Materials Engineering	3	0	2	30	70	20	30	150	4
BTME 405	Professional Core courses	Instrumentation & Control	3	0	0	30	70	-	-	100	3
BTME 406	Mandatory courses	Environmental Science	3	0	0	-	-	-	-	100	3
Total			18	1	6					750	22

JAGANNATH UNIVERSITY
BACHELOR OF TECHNOLOGY
MECHANICAL ENGINEERING

SEMESTER V

Theory Papers			No. of Teaching Hours			Marks Allocation					
Code	**Category**	**Course Title**	**L**	**T**	**P**	**Theory**		**Practical**			
						IA	**EA**	**IA**	**EA**	**Total**	**Credits**
BTME 501	Professional Core courses	Heat Transfer	3	1	0	30	70	-	-	100	4
BTME 502	Professional Core courses	Solid Mechanics	3	0	0	30	70	-	-	100	3
BTME 503	Professional Core courses	Manufacturing Processes	3	0	2	30	70	-	-	100	3
BTME 504	Professional Core courses	Kinematics & Theory of Machines	3	0	2	30	70	20	30	150	4
BTME 505	Humanities and Social Sciences including Management courses	Humanities I (Organizational Behavior)	3	0	0	30	70	-	-	100	3
BTME 506	Professional Core courses	Mechanical Engineering Laboratory (Thermal) I	0	0	2	-	-	30	70	100	1
BTME 507	Mandatory course	Essence of Indian Traditional Knowledge/Indian Constitution	3	0	0	30	70	-	-	100	3
BTME 508	Project (Summer internship)	Project-I	0	0	2	-	-	30	70	100	1
Total			18	1	8					850	22

JAGANNATH UNIVERSITY
BACHELOR OF TECHNOLOGY
MECHANICAL ENGINEERING

SEMESTER VI

Theory Papers			**No. of Teaching Hours**			**Marks Allocation**					
Code	**Category**	**Course Title**	**L**	**T**	**P**	**Theory**		**Practical**			
						IA	**EA**	**IA**	**EA**	**Total**	**Credits**
BTME 601	Professional Core courses	Manufacturing Technology	3	0	2	30	70	20	30	150	4
BTME 602	Professional Core courses	Design of Machine Elements	3	0	0	30	70	-	-	100	3
BTME 603	Professional Elective courses	Elective-I **(IC Engines, Mechatronics)**	3	1	0	30	70	-	-	100	4
BTME 604	Professional Elective courses	Elective-II **(Microprocessors in Automation, Composite Materials, CAD)**	3	0	0	30	70	-	-	100	3
BTME 605	Humanities and Social Sciences including Management	Open Elective-II (Humanities) **(Operation Research, HRM, ICT for Development)**	3	0	0	30	70	-	-	100	3
BTME 606	Professional Core courses	Mechanical Engineering Laboratory (Design)II	-	-	3	-	-	30	70	100	2
BTME 607	Project (Summer internship)	Project-II	-	-	6			30	70	100	3
Total			15	1	11					750	22

JAGANNATH UNIVERSITY
BACHELOR OF TECHNOLOGY
MECHANICAL ENGINEERING

SEMESTER VII

Theory Papers			**No. of Teaching Hours**			**Marks Allocation**					
Code	**Category**	**Course Title**	**L**	**T**	**P**	**Theory**		**Practical**			
						IA	**EA**	**IA**	**EA**	**Total**	**Credits**
BTME 701	Professional Core courses	Automation in Manufacturing	3	0	0	30	70	-	-	100	3
BTME 702	Professional Elective courses	**Elective III** RAC, FEM	3	0	2	30	70	20	30	150	4
BTME 703	Professional Elective courses	**Elective-IV** PPE, Process Planning & Cost Estimation,Gas Dynamics and Jet Propulsion	3	0	0	30	70	-	-	100	3
BTME 704	Open Elective courses	**Open Elective-III** Dynamics of Machines	3	0	0	30	70	-	-	100	3
BTME 705	Professional Core courses	Mechanical Engineering Laboratory III (Manufacturing)	0	0	3	-	-	30	70	100	2
BTME 706	Project	Project-III	0	0	10			50	100	150	5
Total			12	0	15					700	20

JAGANNATH UNIVERSITY
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MECHANICAL ENGINEERING

SEMESTER VIII

Theory Papers			**No. of Teaching Hours**			**Marks Allocation**					
Code	**Category**	**Course Title**	**L**	**T**	**P**	**Theory**		**Practical**			
						IA	**EA**	**IA**	**EA**	**Total**	**Credits**
BTME 801	Professional Elective Courses	**Elective V** (Automobile Engineering, Principles of Mgmt.)	3	1	0	30	70	-	-	100	4
BTME 802	Professional Elective Courses	**Elective VI** (Design of Transmission Systems, TQM, Energy Conversion &Mgmt.,)	3	0	0	30	70	-	-	100	3
BTME 803	Open Elective courses	**Open Elective IV** Mechanical Vibrations	3	0	0	30	70	-	-	100	3
BTME 804	Open Elective courses	**Open Elective V** Computer Integrated Manufacturing	3	0	0	30	70	-	-	100	3
BTME 805	Project	Project-IV	0	0	12	-	-	100	100	200	6
Total			12	1	13					650	19