ARKA JAIN University
Jharkhand (Jamshedpur)

Recognized by UGC
Approved by AICTE

Scheme of Study of the Program

Bachelor of Technology-
Mechanical Engineering (B.Tech-ME)

Semester-I, II, III, IV, V, VI, VII & VIII

(Batch 2018-2022)

Semester I – Scheme of Study

S.No	Name of the Subject	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory/ Practical Exam	CIA	Attendance
1	Communicative English *	3	3	100	70	20	5	5
2	Engineering Mathematics -I $	4	4	100	70	20	5	5
3	Environment & Ecology *	3	3	100	70	20	5	5
4	Basic Electrical Engg. #	3	4	100	70	20	5	5
5	Computer Programming #	3	4	100	70	20	5	5
6	Engineering Graphics #	3	4	100	70	20	5	5
	Practical							
7	Basic Electrical Engg. Lab #	2	3	50	35	5	5	5
8	Computer Programming Lab #	2	3	50	35	5	5	5
9	Engineering Graphics Lab #	2	3	50	35	5	5	5
10	Workshop Practice Lab #	2	3	50	35	5	5	5
	TOTAL	**27**	**34**	**800**	**560**	**140**	**50**	**50**

Semester II – Scheme of Study

S.No	Name of the Subject	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory/ Practical Exam	CIA	Attendance
1	Science, Society & Ethical Value	3	3	100	70	20	5	5
2	Engineering Mathematics-II	3	3	100	70	20	5	5
3	Engineering Mechanics	3	3	100	70	20	5	5
4	Engineering Physics	4	4	100	70	20	5	5
5	Engineering Chemistry	4	4	100	70	20	5	5
6	Elements of Mechanical Engg.	4	4	100	70	20	5	5
	PRACTICAL							
7	Engineering Mechanics Lab	2	2	50	35	5	5	5
8	Engineering Physics Lab	2	2	50	35	5	5	5
9	Engineering Chemistry Lab	2	2	50	35	5	5	5
10	Elements of Mechanical Engg. Lab	2	2	50	35	5	5	5
	Total	29	29	800	560	140	50	50

SEMESTER-III

S.No	Name of the Subject	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory/ Practical Exam	CIA	Attendance
1	Strength ofMaterials	3	3	100	70	20	5	5
2	Mathematics III	4	4	100	70	20	5	5
3	Manufacturing Process-I	3	3	100	70	20	5	5
4	Material Science	3	3	100	70	20	5	5
5	Kinematics of Machinery	3	3	100	70	20	5	5
6	Thermodynamics	4	4	100	70	20	5	5
	PRACTICAL							
7	Strength ofMaterials Lab	1	2	50	35	5	5	5
8	Manufacturing Process-I Lab	1	2	50	35	5	5	5
9	Kinematics of Machinery Lab	1	2	50	35	5	5	5
	TOTAL	23	26	750	525	135	45	45

SEMESTER-IV

S.No	Name of the Subject	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory/ Practical Exam	CIA	Attendance
1	Applied Thermodynamics	4	4	100	70	20	5	5
2	Fluid Mechanics	3	3	100	70	20	5	5
3	Dynamics of Machinery	4	4	100	70	20	5	5
4	Basic Electronics Engineering	3	3	100	70	20	5	5
5	Mechanical measurement & Control	3	3	100	70	20	5	5
6	Biology for Engineers	3	3	100	70	20	5	5
7	Environmental Science	0	0	100	70	20	5	5
	PRACTICAL							
8	Fluid Mechanics Lab	1	2	50	35	5	5	5
9	Basic Electronics Engineering Lab	1	2	50	35	5	5	5
10	Mechanical measurement & Control Lab	1	2	50	35	5	5	5
	TOTAL	**23**	**26**	**850**	**595**	**155**	**50**	**50**

SEMESTER V

S.No	Name of the Subject	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory / Practical Exam	CIA	Attendance
1	Heat & Mass Transfer	3	3	100	70	20	5	5
2	I.C. Engine and Gas Turbine	4	4	100	70	20	5	5
3	Manufacturing Processes-II	3	3	100	70	20	5	5
4	Design of Machine Element	3	3	100	70	20	5	5
5	Humanities I Organizational Behavior	3	3	100	70	20	5	5
6	Essence of Indian knowledge Tradition	0	0	100	70	20	5	5
	PRACTICAL							
7	Heat & Mass Transfer	1	2	50	35	5	5	5
8	Manufacturing Processes-II	1	2	50	35	5	5	5
9	Design of Machine Element	2	4	50	35	5	5	5
	TOTAL	**20**	**24**	**750**	**525**	**135**	**45**	**45**

SEMESTER VI

S.No	Name of the Subject	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory/ Practical Exam	CIA	Attendance
1	Fluid Machinery	3	3	100	70	20	5	5
2	Refrigeration & Air Conditioning	3	3	100	70	20	5	5
3	Elective-I Mechanical Vibration Mechatronic systems Microprocessors in Automation	3	3	100	70	20	5	5
4	Elective-II Composite Materials Introduction to Tribology	3	3	100	70	20	5	5
5	Humanities II Professional Practice, Law & Ethics	3	3	100	70	20	5	5
	PRACTICAL							
6	Fluid Machinery Lab	1	2	50	35	5	5	5
7	Refrigeration & Air Conditioning Lab	1	2	50	35	5	5	5
	TOTAL	**17**	**19**	**600**	**420**	**110**	**35**	**35**

SEMESTER VII

S.No	Name of the Subject	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory/ Practical Exam	CIA	Attendance
1	CAD-CAM	3	3	100	70	20	5	5
2	Elective III Finite Element Analysis Power Plant Engineering Gas Dynamics and Jet Propulsion	3	3	100	70	20	5	5
3	Elective-IV Process Planning and Cost Estimation Principles ofManagement	3	3	100	70	20	5	5
4	Open Elective- I Renewable Energy	3	3	100	70	20	5	5
	PRACTICAL							
5	CAD-CAM	1	2	50	35	5	5	5
6	Industrial Training	2	4	50	35	15		
7	Project I (Minor Project)	6	12	100	70	20	5	5
	TOTAL	**21**	**28**	**600**	**420**	**120**	**35**	**35**

SEMESTER VIII

S.No	Name of the Subject	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory/ Practical Exam	CIA	Attendance
1	Elective V Automobile Engineering Design of Transmission Systems	3	3	100	70	20	5	5
2	Elective VI Total Quality Management Energy Conservation and Management	3	3	100	70	20	5	5
3	Open Elective-II Operations Research Computational Fluid Dynamics	3	3	100	70	20	5	5
4	Open Elective-III Safety Management Non-Conventional Manufacturing	3	3	100	70	20	5	5
	PRACTICAL							
5	Project II (Major Project)	6	12	100	70	20	5	5
	TOTAL	**18**	**24**	**500**	**350**	**100**	**25**	**25**