

R -19

Department of Mechanical Engineering

B.Tech. 1stYear Proposed Course Structure (w.e.f AY 2019-20)

I Year I Semester (Semester-1)

S. No.	Course Code	Course Title	L	T	P	Credits
1	HS1101	Communicative English (Common to ALL)	2	1	0	3
2	BS1101	Mathematics – I (Common to ALL)	3	0	0	3
3	BS1102	Engineering Physics	3	0	0	3
4	ES1101	Programming for Problem Solving Using C (Common to ALL)	3	0	0	3
5	ES1102	Engineering Graphics (Common EEE, ME & ECE)	1	0	3	2.5
6	BS1102L	Engineering Physics Lab	0	0	3	1.5
7	ES1101L	Programming for Problem Solving Using C Lab (Common to ALL)	0	0	3	1.5
8	HS1101L	Communicative English Lab-I (Common to ALL)	0	0	3	1.5
9	MC1101	Constitution of India (Common to EEE, ME & ECE)	3	0	0	0
		Total Credits				19

Category	CREDITS
Basic Science Course	7.5
Engineering Science Course	7.0
Humanities and Social Science	4.5
Mandatory Course	0.0
TOTAL CREDITS	19.0

I Year II Semester (Semester-2)

S. No.	Course Code	Course Title	L	T	P	Credits
1	BS1201	Mathematics - II (Common to ALL)	2	1	0	3
2	BS1202	Mathematics - III (Common to ALL)	2	1	0	3
3	BS1203	Engineering Chemistry	3	0	0	3
4	ES1201	Engineering Mechanics (Common to CE & ME)	3	0	0	3
5	ES1202	Basic Electrical and Electronics Engineering (common to CE, ME, CSE& IT)	3	0	0	3
6	ES1203L	Engineering Workshop (Common to EEE, ME &ECE)	0	0	3	1.5
7	BS1203L	Engineering Chemistry Lab	0	0	3	1.5
8	ES1202L	Basic Electrical and Electronics Engineering Lab (common to CE, ME, CSE& IT)	0	0	3	1.5
9	HS1201L	Communicative English Lab - II (Common to ALL)	0	0	3	1.5
10	MC1201	Environmental Science (Com. to EEE, ME & ECE)	3	0	0	0
		Total Credits				21

Category	CREDITS
Basic Science Course	10.5
Engineering Science Course	09
Humanities and Social Science	1.5
Mandatory Course	0.0
TOTAL CREDITS	21

II Year I Semester (Semester-3)

S. No.	Course Code	Course Title	L	T	P	Credits
1	BS2101	Complex Variables and Statistical Methods (Common to CE, EEE, ME & ECE)	3	0	0	3
2	PC2101	Mechanics of Solids	3	0	0	3
3	PC2102	Material Science and Metallurgy	3	0	0	3
4	PC2103	Production Technology	3	0	0	3
5	PC2104	Thermodynamics	3	0	0	3
6	ES2101	Computer Aided Advanced Engg. Drawing	1	0	3	2.5
7	PC2103L	Production Technology Lab	0	0	3	1.5
8	PC2105L	Metallurgy & Mechanics of Solids Lab	0	0	3	1.5
9	MC2101	Essence of Indian Traditional Knowledge (Common to ALL)	2	0	0	0
		Total Credits				20.5

Category	CREDITS
Basic Science Course	3
Professional Core courses	15
Engineering Science Course	2.5
Mandatory Course	0.0
TOTAL CREDITS	20.5

II Year II Semester (Semester-4)

S.No	Course Code	Course Title	L	T	P	Credits
1	PC2201	Kinematics of Machinery	3	0	0	3
2	PC2202	Applied Thermodynamics	3	0	0	3
3	PC2203	Fluid Mechanics and Hydraulic Machines	3	0	0	3
4	PC2204	Design of Machine Members-I	3	0	0	3
5	ES2201	Python Programming	3	0	0	3
6	PC2202L	Thermal Engineering Lab	0	0	3	1.5
7	PC2203L	Fluid Mechanics and Hydraulic Machines Lab	0	0	3	1.5

8	PC2205	Machine Drawing	1	0	2	2
9	ES2201L	Python Programming Lab	0	0	3	1.5
10	PR2201	Socially relevant project	0	0	2	0
Total Credits						21.5

Category	CREDITS
Professional Core courses	17
Engineering Science Course	4.5
Socially relevant project	0
TOTAL CREDITS	21.5

III Year I Semester (Semester-5)

S. No.	Course Code	Course Title	L	T	P	Credits
1	PC3101	Dynamics of Machinery	3	0	0	3
2	PC3102	Design of Machine Members-II	3	0	0	3
3	PC3103	Metal Cutting and Machine Tools	3	0	0	3
4	PC3104	Finite Element Methods	3	0	0	3
5	ES3101	Internet of Things	3	0	0	3
6	ES3101L	Internet of Things Lab	0	0	3	1.5
7	PC3101L	Theory of Machines Lab	0	0	3	1.5
8	PC3103L	Machine Tools Lab	0	0	3	1.5
Total Credits						19.5

Category	CREDITS
Professional Core courses	15
Engineering Science Course	4.5
TOTAL CREDITS	19.5

III Year II Semester (Semester-6)

S. No	Course Code	Course Title	L	T	P	Credits
1	OE3201X	OPEN ELECTIVE -I	3	0	0	3
2	PC3201	Heat Transfer	3	0	0	3
3	HS3201	Managerial Economics and Financial Accountancy (Common to EEE & ME)	3	0	0	3
4	PE3201X	Professional Elective- I	3	0	0	3
5	PE3202X	Professional Elective- II	3	0	0	3
6	PC3201L	Heat Transfer Lab	0	0	3	1.5
7	PC3202L	Simulation Lab	0	0	4	1.5
8	PR3201	Mini Project	0	0	6	3
		Total Credits				21

SUMMER INTERNSHIP (INTER SEMESTER)

S. No.	Course Code	Course Title	L	T	P	Credits
1	PROJ- ME	Summer Internship	0	0	60 Hrs	0

Category	CREDITS
Professional Core courses	6
Professional Elective courses	6
Open Elective courses	3
Humanities and Social Science	3
Mini Project	3
TOTAL CREDITS	21

IV Year I Semester (Semester-7)

S. No.	Course Code	Course Title	L	T	P	Credits
1	HS4101	Management Science (Common to ME & EEE)	3	0	0	3
2	PE4101X	Professional Elective- III	3	0	0	3
3	PE4102X	Professional Elective- IV	3	0	0	3
4	OE4101X	OPEN ELECTIVE -II	3	0	0	3
5	PC4101	Instrumentation Control Systems and Engineering Metrology	3	0	0	3
6	PC4101L	Instrumentation Control Systems and Engineering Metrology Lab	0	0	2	1.5
7	PR4101	Project 1	0	0	6	3
		Total Credits				19.5

Category	CREDITS
Professional Core courses	4.5
Humanities and Social Science	3
Professional Elective courses	6
Open Elective courses	3
Project	3
TOTAL CREDITS	19.5

IV Year II Semester (Semester-8)

S. No.	Course Code	Course Title	L	T	P	Credits
1	PE4201X	Professional Elective- V	3	0	0	3
2	PE4202X	Professional Elective- VI	3	0	0	3
3	OE4201X	OPEN ELECTIVE -III	3	0	0	3
4	OE4202X	OPEN ELECTIVE -IV	3	0	0	3
5	PR4201	Project 2	0	0	12	6
		Total Credits				18

Category	CREDITS
Professional Elective courses	6
Open Elective courses	6
Project	6
TOTAL CREDITS	18

PROFESSIONAL ELECTIVES

Professional Elective- I PE3201X	Professional Elective- II PE3202X	Professional Elective- III PE4101X	Professional Elective- IV PE4102X	Professional Elective- V PE4201X	Professional Elective- VI PE4202X
Composite Materials	Advanced Mechanics of Solids	Mechanical Vibrations	Automation in Manufacturing	Industrial Robotics	Condition Monitoring
Refrigeration & Air Conditioning	Power Plant Engineering	CAD/CAM	Additive Manufacturing	Gas Dynamics and Jet Propulsion	Computational Fluid Dynamics
Advanced Manufacturing Processes	Design for Manufacturing & Assembly	Renewable Energy Sources	Automobile Engineering	Nano Materials	Non Destructive Evaluation
Statistical Quality Control	Mechatronics	Production Planning Control	Optimization Techniques	Reliability Engineering	Industrial Hydraulics and Pneumatics

OPEN ELECTIVES OFFERED BY DEPARTMENT

Open Elective- I OE3201X	Open Elective- II OE4101X	Open Elective- III OE4201X	Open Elective- IV OE4202X
MEMS	Industrial psychology	Green Energy Systems	Total Quality Management
Optimization methods	Safety Engineering	Robotics	Supply Chain Management
Operations Management	Basics of Fluid Mechanics and Heat Transfer	Energy Consumption and Management	Product Design & Development
Nano Technology	Traditional and Modern Machining	IPR& Patents	Entrepreneurship

Category	CREDITS
Basic Science Course	21
Engineering Science Course	27.5
Humanities and Social Science	12
Professional core courses	57.5
Professional Elective courses	18
Open Elective courses	12
Summer Internships and Projects	12
Mandatory Courses	00
TOTAL CREDITS	160

