

**R15 REGULATIONS
COURSE STRUCTURE
FOR
B.TECH –MECHANICAL ENGINEERING
w.e.f.
2015 ADMITTED BATCH**



**DEPARTMENT OF MECHANICAL ENGINEERING
JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR
COLLEGE OF ENGINEERING (AUTONOMOUS) :: PULIVENDULA
Y.S.R. (DIST), ANDHRA PRADESH, INDIA – 516390.**

**COURSE STRUCTURE OF R15 REGULATIONS FOR B.TECH IN
MECHANICAL ENGINEERING**

B. Tech I Year I Semester

S.No.	Course Code	Subject Name	Theory/Tutorial	Drawing/Lab	Credits
1	15AHS01	Functional English	3+1	-	3
2	15ABS06	Mathematics - I	3+1	-	3
3	15ACS01	Computer Programming	3+1	-	3
4	15ABS03	Engineering Chemistry	3+1	-	3
5	15ABS05	Environmental Studies	3+1	-	3
6	15AME02	Engineering Mechanics	3+1	-	3
7	15AHS02	English Language Communication Skills Lab	3+1	-	2
8	15ACS02	Computer Programming Lab	-	3	2
9	15ABS04	Engineering Chemistry Lab	-	3	2
		Total	25	09	24

B. Tech I Year II Semester

S.No.	Course Code	Subject Name	Theory/Tutorial	Drawing/Lab	Credits
1	15AHS03	English for Professional Communication	3+1	-	3
2	15ABS07	Mathematics - II	3+1	-	3
3	15ABS01	Engineering Physics	3+1	-	3
4	15ACS04	Data Structures	3+1	-	3
5	15AME01	Engineering Drawing	3+1	-	3
6	15AME04	Basic Mechanical Engineering	3+1	-	3
7	15AME05	Engineering Drawing using Auto CAD Lab	-	3	2
8	15ABS02	Engineering Physics Lab	-	3	2
9	15AME03	Engineering and IT Workshop	-	3	2
		Total	24	09	24

II Year I Semester

S.No.	Course Code	Subject Name	Theory/Tutorial	Drawing/Lab	Credits
1	15ABS08	Mathematics - III	3+1	-	3
2	15AME07	Mechanics of Solids	3+1	-	3
3	15ABEE01	Basic Electrical and Electronics Engineering	3+1	-	3
4	15AME08	Material science and Metallurgy	3+1	-	3
5	15AME09	Thermodynamics	3+1	-	3
6	Choice based credit course of inter department ANNEXURE-I		3+1	-	3
7	15AME10	Material science and Mechanics of Solids Lab	-	4	2
8	15ABEE02	Electrical and Electronics Lab	-	4	2
9	15AHS04	Human Values and Professional Ethics(Audit Course)	2		
		Total	26	6	22



ANNEXURE-I

**Choice Based Credit Course of Inter Department
offered in
B.TECH II YEAR I SEMESTER**

BRANCH	SUBJECT CODE	SUBJECT NAME
PHYSICS	15ABS12	Basics of Nano Science and Nano Technology
MATHEMATICS	15ABS14	Set Theory and Mathematical Logic
	15ABS23	Mathematical Modeling
CHEMISTRY	15ABS15	Green Chemistry and Catalysis for Sustainable Environment
	15ABS16	Instrumental Methods of Chemical Analysis
	15ABS17	Chemistry of Nano Material and Application
ENGLISH	15AHS08	Campus Recruitment Training & Soft Skills
	15AHS09	Competitive & Spoken English
CE	15ACE09	Green Buildings
	15ACE10	Disaster Management and Mitigation
	15ACE11	Water Harvesting and Conservation
ECE	15AEC08	Basic Electronics
	15AEC09	Fundamentals of Digital Electronics
	15AEC10	Electronic Measurements & Instrumentation
ME	15AME11	Robotics
	15AME12	Mechanical Manufacturing Process
	15AME13	Non-Conventional Sources of Energy
EEE	15AEE08	Principles of electrical engineering
	15AEE01	Electrical engineering materials
	15AEE09	Electrical measuring instruments
CSE	15ACS04	Data Structures
	15ACS11	Object oriented Programming
	15ACS08	Operating Systems

II Year II Semester

S.No.	Course Code	Subject Name	Theory/ Tutorial	Drawing/ Lab	Credits
1	15ABS09	Probability and Statistics	3+1	-	3
2	5AME16	Kinematics of Machinery	3+1	-	3
3	5AME17	Thermal Engineering	3+1	-	3
4	5AME18	Fluid Mechanics and Hydraulic Machinery	3+1	-	3
5	5AME19	Machine Drawing	3+1	-	3
6	5AME20	Manufacturing Technology	3+1	-	3
7	5AME21	Thermal Engineering Lab		4	2
8	5AME15	Fluid Mechanics and Hydraulic Machinery Lab	-	4	2
9	5AME22	Comprehensive Online Examination	-		1
		Total	26	8	23

III YEAR I SEMESTER

S.No.	Course Code	Subject Name	Theory/ Tutorial	Drawing/ Lab	Credits
1	15AHS05	Managerial Economics And Financial Analysis	3+1	-	3
2	15AME24	Dynamics Of Machinery	3+1	-	3
3	15AME25	Machine Tools	3+1	-	3
4	15AME26	Elements Of Machine Design	3+1	-	3
5	15AME27	Heat Transfer	3+1	-	3
6	15AME30	Advanced Thermal Engineering	3+1	-	3
7	15AME28	Manufacturing Technology Lab	--	3	2
8	15AME29	Heat Transfer Lab	-	3	2
9	15AHS06	Advanced Communication Skills Lab (Audit Course)	-	-	-
		TOTAL	24	6	22

III YEAR II SEMESTER

S.No.	Course Code	Subject Name	Theory / Tutorial	Drawing/ Lab	Credits
1	15AME31	CAD/CAM	3+1	-	3
2	15AME32	Refrigeration And Air Conditioning	3+1	-	3
3	15AME33	Advanced Machine Design	3+1	-	3
4	15AME34	Metrology And Instrumentation	3+1	-	3
5		MOOC-I	3+1	-	3
6	Choice Based Credit Courses (Inter-Department)		3+1	-	3
7	15AME38	Machine Tools Lab	-	4	2
8	15AME39	CAD/CAM Lab	-	4	2
9	15AME40	Comprehensive Online Examination	-	-	1
		TOTAL	24	8	23

ANNEXURE-II**CHOICE BASED CREDIT COURSE OF INTER DEPARTMENT**

Branch	Subject Code	Subject Name
MATHEMATICS	15ABS18	FUZZY SETS AND APPLICATIONS
	15ABS19	OPTIMIZATION TECHNIQUES
CHEMISTRY	15ABS20	CHEMISTRY ENERGY MATERIALS
	15ABS21	CHEMISTRY OF LIFE
	15ABS22	CHEMISTRY OF POLYMERS AND THEIR APPLICATIONS
CE	15ACE35	REMOTE SENSING & GIS
	15ACE36	ENVIRONMENTAL IMPACT ASSESTMENT & MANAGEMENT
	15ACE37	FINITE ELEMENT METHODS
EEE	15AEE19	POWER ELECTRONICS
	15AEE34	RENEWABLE ENERGY SOURCES
	15AEE35	UTILIZATION OF ELECTRICAL ENERGY
ME	15AME35	OPTIMIZATION TECHNIQUES BY MATLAB
	15AME36	MECHATRONICS & MEMS
	15AME37	AUTOMOTIVE ELECTRONICS
ECE	15AEC34	FUNDAMENTALS OF COMMUNICATION SYSTEMS
	15AEC35	INDUSTRIAL ELECTRONICS
	15AEC36	NEURAL NETWORKS & FUZZY LOGIC
CSE	15ACS35	MOBILE COMPUTING
	15ACS36	OPTIMIZATION TECHNIQUES
	15ACS37	MACHINE LEARNING

IV YEAR I SEMESTER

S.No.	Course Code	Subject Name	Theory/ Tutorial	Drawing/ Lab	Credits
1	15AME51	Automobile Engineering	3+1	-	3
2	15AME52	Operations Research	3+1	-	3
3	15AME53	Finite Element Method	3+1	-	3
4		MOOC-II	3+1	-	3
5	CHOICE BASED CREDIT COURSES (DEPARTMENT SPECIFIC)		3+1	-	3
	15AME54	A. Energy Systems			
	15AME55	B. Industrial Management			
	15AME56	C. Entrepreneurship			
	15AME57	D. Product Design			
6	CHOICE BASED CREDIT COURSES (DEPARTMENT SPECIFIC)		3+1	-	3
	15AME58	A. Computational Fluid Dynamics			
	15AME59	B. Mechanical Vibrations			
	15AME60	C. Fluid Power Systems			
	15AME61	D. Production Operations Management			
7	15AME62	Metrology, Instrumentation & Dynamics Lab	-	4	2
8	15AME63	Computer Aided Engineering Lab	-	4	2
		TOTAL	24	8	22

IV YEAR II SEMESTER

S.No.	Course Code	Subject Name	Theory/ Tutorial	Drawing/ Lab	Credits
1	15AME81	Automation And Robotics	3+1	-	3
2	15AME82	Mechatronics	3+1	-	3
3	15AME83	Power Plant Engineering	3+1	-	3
4		MOOC-III	3+1	-	3
5	15AME99	Project Work And Seminar		20	10
		TOTAL	16	20	22