Department of Mechanical Engineering

[Minimum Credits to be earned: 174 (for regular students)/132 (for Lateral entry students)]

No	Course Code	Course	POs	Periods			
				L	T	P	C
First Semester							
1	16HSX01	English Communication Skills I	10	3	1	-	3
2	16MAX01	Engineering Mathematics I	1,2	3	1	-	3
3	16PYX01	Engineering Physics	1,2	3	1	-	3
4	16MEX01	Engineering Mechanics	1,2,3	3	1	-	3
5	16CSX01	Problem Solving using C	1,2,3	3	1	-	3
6	16PYX02	Engineering Physics Lab	4	-	-	3	2
7	16CSX02	Problem solving using C Lab	4	-	-	3	2
8	16MEX02	Engineering Drawing	4,9,10, PSO_1	-	-	3	2
			Total	15	5	9	21
Second Semester							
1	16HSX03	English Communication Skills II	10	3	1	-	3
2	16MAX02	Engineering Mathematics II	1,2	3	1	-	3
3	16CYX01	Engineering Chemistry	1,2	3	1	-	3
4	16EEX01	Basic Electrical Engineering	1,3	3	1	-	3
5	16CHX01	Environmental Studies	1,3,6,7	3	1	-	3
6	16HSX02	English Communication Skills Lab	10	-	-	3	2
7	16CYX02	Engineering Chemistry Lab	4	-	-	3	2
8	16MEX03	Engineering Workshop	1,2,10,12	-	-	3	2
			Total	15	5	9	21
Third Semester							
No	**Course Code**	**Course**	**POs**	**Periods**			
				L	**T**	**P**	**C**
1	16ME301	Engineering Thermodynamics	1,2,3	3	1	-	3
2	16ME302	Fluid Mechanics & Hydraulic Machines	1,2,3	3	1	-	3
3	16ME303	Machine drawing	1,3,5,10, PSO1	2	-	4	4
4	16ME304	Material Science and Metallurgy	1,2,3	3	1	-	3
5	16IT306	Object Oriented Programming through Java	1,2,3,5	3	1	-	3
6	16ME305	Rigid Body Dynamics	1,2,3	3	1	-	3
7	16ME306	Fluid Mechanics & Hydraulic Machines Lab	1,2,10	-	-	3	2
8	16IT309	Java Lab	2,3,4,5	-	-	3	2
9	16ME307	Metallurgy Lab	1,2,10	-	-	3	2
10	16HSX05	CC&EC Activities I	10	-	-	3	-
11	16ESX1A	Employability Skills I		-	2	-	-
			Total	17	7	16	25
Fourth Semester							
1	16ME401	Applied Thermal Engineering	1,2,3,7	3	1	-	3
2	16HS405	Engineering Economics and Financial Accounting	1,2,3,9,11	3	1	-	3
3	16MA303	Engineering Mathematics III	1,2,4,5,9	3	-	2	4
4	16ME402	Kinematics of Machinery	1,2,3	3	1	-	3
5	16ME403	Mechanics of Solids	1,2,3	3	1	-	3
6	16ME404	Manufacturing Processes	1,2,3,4	3	1	-	3
7	16ME405	Mechanics of Solids Lab	1,2,3,10	-	-	3	2
8	16ME406	Manufacturing Processes Lab	1,2,3,10,12	-	-	3	2
9	16ME407	Thermal Engineering Lab	1,2,10,12,PSO_2	-	-	3	2
10	16HSX05	CC&EC Activities I	10	-	-	3	1
11	16ESX1B	Employability Skills II		-	2	-	1
			Total	18	7	14	27

Fifth Semester							
No	**Course Code**	**Course**	**POs**	**Periods**			
				L	**T**	**P**	**C**
1	16ME501	Elements of Machine Design	1,2,3	3	1	-	3
2	16ME502	Dynamics of Machinery	1,2,3	3	1	-	3
3	16ME503	Metal Cutting and Machine Tools	1,2,3	3	1	-	3
4	16ME504	Mechanical Measurements and Metrology	1,3,4,10	3	-	2	4
5	16ME505	Steam and Gas turbines	1,2,3,7	3	1	-	3
6		Elective I/CC		3	1	-	3
7	16ME507	Machine Tools & Dynamics Lab	1,2,3,10,PSO_2	-	-	3	2
8	16ME508/ 16ME509	Mini Project /Term Paper	All POs	-	-	3	2
9	16HSX06	CC & EC Activity II	10	-	-	3	-
10	16ESX2A	Employability Skills - III		-	2	-	-
11	16SIX01	Summer Internship	All POs	-	-	-	-
			Total	18	7	11	23
Sixth Semester							
1	16ME601	Design of Machine Members	1,2,3	3	1	-	3
2	16ME602	Geometric Modeling and Computer Aided Manufacturing	1,2,5,9,10, PSO_1	3	-	2	4
3	16ME603	Heat Transfer	1,2,3,7	3	1	-	3
4	16ME604	Mechatronics	1,2,3,4,9	3	1	-	3
5		Elective II/CC		3	1	-	3
6		Elective III (Open Elective)		3	1	-	3
7	16ME607	Heat Transfer Lab	1,2,3,7,10, PSO_2	-	-	3	2
8	16ME509/ 16ME508	Term Paper /Mini Project	All POs	-	-	3	2
9		Audit Course		-	-	-	-
10	16HSX06	CC & EC Activity II	10	-	-	3	1
11	16ESX2B	Employability Skills IV		-	2	-	1
			Total	18	7	11	25
Seventh Semester							
No	**Course Code**	**Course**	**POs**	**Periods**			
				L	**T**	**P**	**C**
1	16ME701	Finite Element Method	1,2,3, PSO1	3	1	-	3
3		Elective IV/CC		3	1	-	3
		Elective V/CC		3	1	-	3
4	16ME704	Additive Manufacturing & Mechatronics Lab	1,2,3,5,9,10,12, PSO_1, PSO_2	-	-	3	2
5	16ME705	Computer Aided Analysis and Simulation lab	1,2,3,5,10,12, PSO_1	-	-	3	2
6	16ME706	Full Semester Internship[1]	10,11	-	-	-	16
			Total	9	3	6	13/16
Eighth Semester							
1	16ME801	Industrial Engineering & Management	1,10,11,12	3	1	-	3
2	16ME802	Operations Research	1,2,3,5	3	1	-	3
3		Elective VI/CC		3	1	-	3
4	16ME804	Project	9,10,11,12, PSO_1, PSO_2	-	-	-	10
5	16ME706	Full Semester Internship[2]	10,11				16
			Total	9	3	-	19/16

[1]Student who opt for FSI-16ME706 during 7th semester, have to register one more additional elective and 16 ME704 & 16ME705 as additional lab courses during 8th semester

[2]Student who opt for FSI-16ME706 during 8th semester, have to register an additional course in consultation with HOD during 7thsemester

List of Elective Courses

No	Course Code	Course	POs	Periods			
				L	T	P	C
Elective I							
1	16ME001	Advanced IC Engines	1,2,3	3	1	-	3
2	16ME002	Advanced Materials	1,3	3	1	-	3
3	16ME003	Industrial Robotics	1,2,3,PSO_1	3	1	-	3
4	16ME004	Non-Traditional Machining and Forming Processes	1,2,PSO_2	3	1	-	3
5		MOOCs		-	-	-	3
Elective II							
1	16ME005	Additive Manufacturing	1,2,3, PSO_2	3	1	-	3
2	16ME006	Automobile Engineering	1,2,3,6,7	3	1	-	3
3	16ME007	Control Systems	1,2,3,4,9	3	1	-	3
4	16ME008	Fatigue, Fracture and Creep	1,2,3	3	1	-	3
5		MOOCs		-	-	-	3
Elective III (Open Electives – Mathematics, Chemistry, Entrepreneurship Skills, Industrial Safety and Engineering & Technology)							
1	16CE007	Disaster Management	2	3	1	-	3
2	16EE004	Renewable Energy Sources	2,7	3	1	-	3
3	16ME009	Principles of Entrepreneurship	1,5,8,11	3	1	-	3
4	16EC004	Fundamentals of Global Positioning System	1,2,6	3	1	-	3
5	16CS006	Computational Intelligence	3,5,6	3	1	-	3
6	16CS007	IoT for Engineering Applications	1,5	3	1	-	3
7	16CH007	Industrial Safety and Hazard Management	1,2,3,6,8	3	1	-	3
8	16IT005	Fundamentals of Cloud Computing	2,5,6	3	1	-	3
9	16PE006	Smart Grid Technology	3,5	3	1	-	3
10	16MA001	Computational Mathematics	1,2	3	1	-	3
11	16CY001	Nano Science & Technology	1,12	3	1	-	3
Elective IV							
1	16ME010	Design for Manufacturing	1,2,7,12,PSO_2	3	1	-	3
2	16ME011	Industrial Tribology	1,2,3,12	3	1	-	3
3	16ME012	Refrigeration and Air Conditioning	1,2,3,7	3	1	-	3
4	16ME013	Supply Chain Management	1,2,5,10,11,12	3	1	-	3
5		MOOCs		-	-	-	3
Elective V							
1	16ME014	Alternative Sources of Energy	1,2,3,7	3	1	-	3
2	16ME015	Energy and Environmental Engineering	1,6,7,8	3	1	-	3
3	16ME016	Jet Propulsion and Rocket Engineering	1,2,3,7	3	1	-	3
4	16ME017	Total Quality Management	1,10,11,12	3	1	-	3
5		MOOCs		-	-	-	3
Elective VI							
1	16ME018	Computational Fluid Dynamics	1,2,3,4,5	3	1	-	3
2	16ME019	Professional Ethics in Engineering	6,7,8,12	3	1	-	3
2	16ME020	Power Plant Engineering	1,2,3,6,7	3	1	-	3
3	16ME021	Production Planning and Control	1,2,3,5,11,12	3	1	-	3
4	16ME022	Project Management	1,5,9,10,11,12	3	1	-	3
5		MOOCs		-	-	-	3
Contemporary Courses[3] (CC)							
1	16ME023	Mechanical Handling	1,2,3,6,7	3	1	-	3
2	16ME024	Mechanical Maintenance and safety	1,2,3,6,7	3	1	-	3
3	16ME025	Power Plant Operations and Maintenance	1,2,3,6,7	3	1	-	3

4	16ME026	Safety Management	1,2,3,6,7	3	1	-	3
One Credit Course[4] (15 Hours)							
1	16MEI01	Introduction to Turbo Machines and Jet Engines	1,2,3,6,7	1	0	0	1
2	16MEI02	Mass production of Pig Iron in an Integrated Steel plant	1,2,3,6,7	1	0	0	1
3	16MEI03	Industrial Safety	1,2,3,6,7	1	0	0	1
Audit Courses							
1	16AT001	Contemporary India: Economy, Polity & society (ME)	-				
2	16AT002	Indian Heritage and Culture (EEE)					
3	16AT003	Intellectual Property Rights and Patents (ECE)					
4	16AT004	Introduction to Journalism (CSE)					
5	16AT005	Professional Ethics and Morals (CE)					
6	16AT006	Science, Technology and Development (Chem)					
7	16AT007	Industrial Sociology (PE)					
8	16AT008	Organizational Behavior (IT)					
9	16AT009	Communication Etiquette in workplaces (BSH)					

[3,4]Contemporary and One Credit Courses may vary from one Academic Year to another Academic Year and depends on the recent trends in the industries

Department of Mechanical Engineering
Thermal Engineering

[Minimum Credits to be earned:72]

First Semester							
No	**Course Code**	**Course**	**POs**	**Periods**			
				L	**T**	**P**	**C**
1	16MEX101	Advanced Optimization Techniques		4	-	-	4
2	16THE102	Advanced Thermodynamics		4	-	-	4
3	16THE103	Finite Element Analysis		4	-	-	4
4		Elective I		4	-	-	4
5		Elective II		4	-	-	4
6	16THE104	Thermal Engineering Lab			-	3	2
7	16THE105	Term Paper			-	-	2
			Total	20	-	3	24
Second Semester							
1	16THE201	Advanced Heat and Mass Transfer		4	-	-	4
2	16THE202	Computational Methods For Fluid Flow		4	-	-	4
3	16THE203	Fuels and Combustion		4	-	-	4
4		Elective III		4	-	-	4
5		Elective IV		4	-	-	4
6	16THE204	Computational Methods Lab			-	3	2
7	16THE205	Comprehensive Viva			-	-	2
			Total	20	-	3	24
Third Semester							
No	**Course Code**	**Course**	**POs**	**Periods**			
				L	**T**	**P**	**C**
1	16THE301	Internship		-	-	-	4
2	16THE302	Project		-	-	-	-
			Total	-	-	-	4
Fourth Semester							
1	16THE302	Project		-	-	-	20

List of Elective Courses

No	Course Code	Course	POs	Periods			
				L	T	P	C
Elective I							
1	16THE001	Advanced Fluid Mechanics		4	-	-	4
2	16THE002	Energy and Environmental Engineering		4	-	-	4
3	16THE003	Turbo Machines		4	-	-	4
Elective II							
1	16THE004	Combustion and emissions in IC engines		4	-	-	4
2	16THE005	Convective Heat Transfer		4	-	-	4
3	16THE006	Non-Conventional Energy Sources		4	-	-	4
Elective III							
1	16THE007	Energy Management		4	-	-	4
2	16THE008	Equipment Design for Thermal Systems		4	-	-	4
3	16THE009	Thermal and Nuclear power Plants		4	-	-	4
Elective IV							
1	16THE010	Jet propulsion and Rocketry		4	-	-	4
2	16THE011	Advanced Refrigeration and Air conditioning Systems		4	-	-	4
3	16THE012	Thermal Measurements and Process Controls		4	-	-	4

GMR INSTITUTE OF TECHNOLOGY, RAJAM

DEPARTMENT OF MECHANICAL ENGINEERING

Dt.21.11.2015

The following faculty members attended the 6th BOS meeting in the Department of Mechanical Engineering on 21.11.2015 at 2-F-05 Class Room.

Agenda:

1. SWOT & GAP Analysis of the structure and curriculum under AR13 regulations.
2. Review & Finalization of course structure of UG programmes under AR16 regulations.
3. Review & Finalization of course titles & content of UG Programmes under AR16 regulations.
4. Review & Finalizations of course titles & content of PG programmes under AR16 regulations.
5. Review & Revision of continuous assessment & semester end evaluation components under AR16 Regulations.
6. Review & Review & Revision of continuous assessment system for AR16 regulations.
7. Any other with the permission of the Chairman.

Name of the Faculty	Signature
Dr.K.Ramji Professor, Andhra University, Visakhapatnam	
Dr.A.Krishnaiah Professor, Osmania University, Hyderabad	
Dr.Ch.Suryanarayana, Scientist G, Head Propulsion & Additional Director, NSTL- Visakhapatnam	
Dr. V Chitti Babu Professor, HOD-MECH	
Dr. S V Ramana, Professor.	
Dr. M Srinivasa Rao, Professor.	
Dr. V.Rambabu, Professor.	
Dr. R Umamaheswara Rao, Asso.Professor.	
Dr.D.Srinivasa Kumar, Asso.Professor	
Sri. M V S Babu, Asso.Professor	
Sri. P Govinda Rao, Asso.Professor.	
Dr. K Prasada Rao Sr.Asst.Professor	
Mrs. P N L Pavani, Sr.Asst.Professor	
Sri V.Jagadeesh, Sr.Asst.Professor	
Sri GVSS Sharma, Asst.Professor	
Sri M.Anil Kumar, Asst. Professor	

Name of the Faculty	Signature
Sri K.Santa Rao, Asst.Professor	
Sri. D Venkata Rao, Asst.Professor	
Sri. S Chiranjeeva Rao, Asst.Professor	
Sri. M Vykunta Rao, Asst.Professor	
Sri. U Sudhakar, Asst.Professor	
Sri. G Vamsidurga Mohan, Asst.Professor	
Sri. P.Sai Chaitanya, Asst.Professor	
Sri. K Simhadri, Asst.Professor	
Sri. CH. Vinod Babu, Asst.Professor	
Sri B.V.Suresh, Asst.Professor	
Mrs.Y.Sirirsha, Asst. Professor	

GMR INSTITUTE OF TECHNOLOGY, RAJAM

DEPARTMENT OF MECHANICAL ENGINEERING

Dt 21.11.2015

Minutes of BOS Meeting

Date: 21.11.2015 Time: 9.30 AM Venue: Room No 2-F-05

Members Present:

Name of the Faculty

Dr.K.Ramji, Professor, Andhra University, Visakhapatnam
Dr.A.Krishnaiah, Professor, Osmania University, Hyderabad
Dr.Ch.Suryanarayana, Scientist G, Head Propulsion &
Additional Director, NSTL- Visakhapatnam
Dr. V Chitti Babu, Professor, HOD-MECH
Dr. S V Ramana, Professor.
Dr. M Srinivasa Rao, Professor.
Dr. V.Rambabu, Professor.
Dr. R Umamaheswara Rao, Asso.Professor.
Dr.D.Srinivasa Kumar, Asso.Professor
Sri. M V S Babu, Asso.Professor
Sri. P Govinda Rao, Asso.Professor.
Dr. K Prasada Rao Sr.Asst.Professor
Mrs. P N L Pavani, Sr.Asst.Professor
Sri V.Jagadeesh, Sr.Asst.Professor
Sri GVSS Sharma, Asst.Professor
Sri M.Anil Kumar, Asst. Professor
Sri K.Santa Rao, Asst.Professor
Sri. D Venkata Rao, Asst.Professor
Sri. S Chiranjeeva Rao, Asst.Professor
Sri. M Vykunta Rao, Asst.Professor
Sri. U Sudhakar, Asst.Professor
Sri. G Vamsidurga Mohan, Asst.Professor
Sri. P.Sai Chaitanya, Asst.Professor
Sri. K Simhadri, Asst.Professor
Sri. CH. Vinod Babu, Asst.Professor
Sri B.V.Suresh, Asst.Professor
Mrs.Y.Sirirsha, Asst. Professor

Minutes of the meeting :

- As per the AICTE no. of credits should have to be 176 (CBCS).
- Credit for theory are less (3 given) better to increase in first year
- For first year for 4 classes minimum -4 credits should be there.
- Normalization between theory and lab required.
- Tutorial may not be required for all courses.
- For Machine Drawing credits should be 4 for 6 practice classes to split between Theory, Laboratory (2+4).
- 5th Semester basic elements of Machine Drawing "basic" should be removed (BEMD)

For ED

- One additional theory class should be added credits should be more

AOT should be one elective.

- Elective make into groups. Then it is easy to adopt in CBCS.

- For EM :Principle of virtual work should be incorporated (or) spatial components of forces

BOOKs :

- Latest publication years need to be included

Maths

- Residue theorem should be incorporated.

Basic electronics part in BE

- Environmental studies credits can be reduced.

Material Science:

Production of material (Furnaces) can be added

One book added

MMS and PT to be modified topics repetitions should be avoided.

FM &HM to be modified.

It would be good if we combine & present both MatCAD and Matlab together.

Put subject headings in IEM

In AIM add another text book.

To put clutches in DMM

Metrology and Instrumentation is to be shifted to next semester

Vibration work bench for Dynamics lab

Fracture mechanics and fatigue to be modified I,e, split in each unit.

In place of Rapid prototyping , Additive manufacturing to be introduced.