Sri Krishna College of Engineering and Technology

An Autonomous Institution, Affiliated to Anna University

Coimbatore – 641 008

REGULATION 2020

CURRICULUM AND SYLLABI

B.E. MECHANICAL ENGINEERING

DEPARTMENT OF MECHANICAL ENGINEERING

SRI KRISHNA COLLEGE OF ENGNEERING AND TECHNOLOGY

An Autonomous Institution Affiliated to Anna University
Kuniamuthur,
Coimbatore - 641 008

VISION AND MISSION OF THE DEPARTMENT

Vision

The department aspires to produce experts in Mechanical Engineering with moral values and desires to set up centers of excellence in innovative design and testing, composite materials, automation, automotive technology and green fuels.

Mission

To produce world class mechanical engineering graduates by promoting core technical competency blended with advanced computing skills, creative thinking and desire to upgrade continuously, so as to empower them to the expectation of the industries in our country and abroad and also to impart the interpersonal skills and make them realize the values of life.

Programme Outcomes (POs):-

At the time of their graduation students of Mechanical Engineering Programme should be in possession of the following Programme Outcomes

a.	**Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
b.	**Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
c.	**Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
d.	**Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
e.	**Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
f.	**The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
g.	**Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
h.	**Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
i.	**Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings
j.	**Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

k.	**Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
l.	**Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Programme Educational Objectives (PEOs):-

The following Programme Educational Objectives are designed based on the department mission

PEO 1: Provide strong foundation in the science and engineering fundamentals necessary to formulate, solve and analyze real time mechanical engineering problems.

PEO 2: Develop the ability to synthesize data and technical concepts for making decisions in an ethical manner considering the socio-economic scenario.

PEO 3: Enable to work as part of teams on multidisciplinary projects with good communication and interpersonal skills in the emerging areas like automation, composite materials, automotive technology, green fuels etc.,

PEO 4: Prepare for successful careers in industry that meet the needs of Indian and multinational companies and to inculcate the qualities of continuous learning and entrepreneurial skills.

Mapping of PO's to PEO's

Programme Educational Objectives	Programme Outcomes														
	a	**b**	**c**	**d**	**e**	**f**	**g**	**h**	**i**	**j**	**k**	**l**	**1**	**2**	**3**
PEO 1	3	3	3	3		1					2		3	3	2
PEO 2	3	3	3	3		3	3	3					3	3	2
PEO 3	2	2	2	1	3	3	3		3	3	3	1	3	3	3
PEO 4	3	3	2	2	2		1	2	1	3	2	3	3	3	3

3	Strongly agreed	**2**	Moderately agreed	**1**	Reasonably agreed

Programme Specific Outcomes (PSO's):-

At the end of the Programme, Graduate shall have

PSO 1	Design, develop and analyse the engineering components using advanced design softwares.
PSO 2	Ability to fabricate real time mechanical systems and test its worthiness.
PSO 3	Ability to apply the advancements in mechanical engineering to promote automation.

B.E. MECHANICAL ENGINEERING
REGULATION 2020
CHOICE BASED CREDIT SYSTEM
I – VIII SEMESTER CURRICULUM AND SYLLABI

SEMESTER I								
SL. No.	**Course Code**	**Course**	**L/T/P**	**Contact hrs./wk.**	**C**	**O**	**Ext./Int.**	**Cat.**
THEORY CUM PRACTICAL								
1.	20MA101	Engineering Mathematics I	2/1/2	5	4	-	40/60	BSC
2.	20CH101	Engineering Chemistry	3/0/3	6	4.5	-	40/60	BSC
3.	20EN101	Technical Communication Skills	2/0/2	4	3	-	40/60	HSMC
4.	20CS111	Problem Solving using C Programming	3/0/2	5	4	-	40/60	ESC
5.	20ME101	Engineering Drawing	1/0/3	4	2.5	-	40/60	ESC
6.	20EE111	Basics of Electrical and Electronics Engineering	3/0/2	5	4	-	40/60	ESC
MANDATORY COURSE								
7.	20MC101	Induction Programme	3 WEEKS		0	-	0/100	MC
		Total	**14/1/14**	**29**	**22**	**-**	**700**	

SEMESTER II								
SL. No.	**Course Code**	**Course**	**L/T/P**	**Contact hrs./wk.**	**C**	**O**	**Ext./Int.**	**Cat.**
THEORY								
1.	20ME201	Engineering Mechanics	3/1/0	4	4	-	50/50	ESC
2.	20ME202	Manufacturing Technology I	3/0/0	3	3	-	50/50	ESC
3.	20GE201	Universal Human Values	3/0/0	3	3	-	50/50	HSMC
THEORY CUM PRACTICAL								
4.	20MA201	Engineering Mathematics II	2/1/2	5	4	-	40/60	BSC
5.	20PH201	Applied Physics	3/0/3	6	4.5	-	40/60	BSC
PRACTICAL								
6.	20ME103	Engineering Practices Laboratory	0/0/3	3	1.5	-	40/60	ESC
7.	20CS211	Python for Engineers Laboratory	1/0/3	4	2.5	-	40/60	ESC
MANDATORY COURSE								
8.	20MC102	Environmental Sciences	2/0/0	2	0	-	0/100	MC
		Total	**17/2/11**	**30**	**22.5**	**-**	**800**	

SEMESTER III								
SL. No.	**Course Code**	**Course**	**L/T/P**	**Contact hrs./wk.**	**C**	**O**	**Ext./Int.**	**Cat.**
THEORY								
1.	20ME301	Solid Mechanics	3/1/0	5	4	-	50/50	PCC
2.	20ME302	Engineering Thermodynamics	3/1/0	5	4	-	50/50	PCC
3.	20ME303	Fluid Mechanics and Machinery	3/0/0	3	3	-	50/50	PCC
4.	20ME304	Industrial Metallurgy	3/0/0	3	3	-	50/50	ESC
THEORY CUM PRACTICAL								
5.	20MA301	Engineering Mathematics III	2/1/2	5	4	-	40/60	BSC
6.	20ME305	Manufacturing Technology-II (with Lab)	3/0/2	5	4	-	40/60	PCC
PRACTICAL								
7.	20ME306	Fluid Mechanics and Strength of Materials Laboratory	0/0/3	3	1.5	-	40/60	PCC
MANDATORY COURSE								
8.	20MCZZZ	Mandatory Course-III	2/0/0	2	0	-	0/100	MC
		Total	**19/3/7**	**31**	**23.5**	**-**	**800**	

SEMESTER IV								
SL. No.	**Course Code**	**Course**	**L/T/P**	**Contact hrs./wk.**	**C**	**O**	**Ext./Int.**	**Cat.**
THEORY								
1.	20ME401	Automobile Engineering (Industry based Course)	2/0/2	4	3	-	50/50	PCC
2.	20ME402	Mechanics of Machines	3/1/0	4	4	-	50/50	PCC
3.	20ME403	Metrology and Instrumentation	3/0/0	3	3	-	50/50	PCC
4.	20MEZZZ	Open Elective – I	3/0/0	3	3	-	50/50	OEC
THEORY CUM PRACTICAL								
5.	20MA401	Probability and Numerical Methods	2/1/2	5	4	-	40/60	BSC
6.	20ME404	Thermal Engineering (with Lab)	3/0/2	5	4	-	40/60	PCC
PRACTICAL								
7.	20ME405	Computer Aided Machine Drawing	0/0/3	3	1.5	-	40/60	PCC
8.	20ME406	Metrology and Dynamics Laboratory	0/0/3	3	1.5	-	40/60	PCC
		Total	**16/2/12**	**30**	**24**	**-**	**800**	

SEMESTER V								
SL. No.	**Course Code**	**Course**	**L/T/P**	**Contact hrs./wk.**	**C**	**O**	**Ext./Int.**	**Cat.**
THEORY								
1.	20ME501	Design of Machine Elements (Project based Course)	3/0/1	4	3.5	-	50/50	PCC
2.	20ME502	Applied Hydraulics and Pneumatics (Project based course)	2/0/2	4	3	-	50/50	PCC
3.	20ME013	Industry 4.0	3/0/0	3	3	-	50/50	EC
4.	20ME9ZZ	Professional Elective-I	3/0/0	3	3	-	50/50	PEC
5.	20MEZZZ	Open Elective – II	3/0/0	3	3	-	50/50	OEC
THEORY CUM PRACTICAL								
6.	20ME503	Heat and Mass Transfer (with Lab)	3/0/2	5	4	-	40/60	PCC
PRACTICAL								
7.	20ME504	CAD/CAM Laboratory	1/0/3	4	2.5	-	40/60	PCC
MANDATORY COURSE								
8.	20MCZZZ	Mandatory Course-IV	2/0/0	2	0	-	0/100	MC
		Total	**20/0/8**	**28**	**22**	**-**	**800**	

SEMESTER VI								
SL. No.	**Course Code**	**Course**	**L/T/P**	**Contact hrs./wk.**	**C**	**O**	**Ext./Int.**	**Cat.**
THEORY								
1.	20ME601	Design of Transmission Systems	3/0/0	3	3	-	50/50	PCC
2.	20ME9ZZ	Professional Elective-II	3/0/0	3	3	-	50/50	PEC
3.	20ME9ZZ	Professional Elective-III	3/0/0	3	3	-	50/50	PEC
4.	20ME9ZZ	Professional Elective-IV	3/0/0	3	3	-	50/50	PEC
5.	20MEZZZ	Emerging Elective- I (Project based course)	2/0/2	4	3	-	50/50	EEC
THEORY CUM PRACTICAL								
6.	20ME602	Computational Mechanics	3/0/2	5	4	-	40/60	PCC
PROJECT WORK								
7.	20ME603	Design Thinking and Mini Project	0/0/2	2	1	-	40/60	PROJ
MANDATORY COURSE								
8.	20MCZZZ	Mandatory Course-V	2/0/0	2	0	-	0/100	MC
		Total	**19/0/6**	**25**	**20**	**-**	**800**	

SEMESTER VII								
SL. No.	**Course Code**	**Course**	**L/T/P**	**Contact hrs./wk.**	**C**	**O**	**Ext./Int.**	**Cat.**
THEORY								
1.	20ME701	Industrial Engineering and Operations Management	3/0/0	3	3	-	50/50	HSMC
2.	20MEZZZ	Emerging Elective – II (Project based course)	2/0/2	4	3	-	50/50	EEC
3.	20ME9ZZ	Professional Elective-V	3/0/0	3	3	-	50/50	PEC
4.	20ME9ZZ	Professional Elective-VI	3/0/0	3	3	-	50/50	PEC
THEORY CUM PRACTICAL								
5.	20ME702	Mechatronics (with Lab)	3/0/2	5	4	-	40/60	ESC
PROJECT WORK								
6.	20ME703	Phase I – Project Work	0/0/2	2	1	-	40/60	PROJ
		Total	**14/0/6**	**20**	**17**	**-**	**600**	

SEMESTER VIII								
SL. No.	**Course Code**	**Course**	**L/T/P**	**Contact hrs./wk.**	**C**	**O**	**Ext./Int.**	**Cat.**
PROJECT WORK								
1.	20ME801	Phase II – Project Work	0/0/24	24	12	-	40/60	PROJ
		Total	**0/0/24**	**24**	**12**	**-**	**100**	

EMPLOYABILITY ENHANCEMENT SKILLS								
SL. No.	**Course Code**	**Course**	**L/T/P**	**Contact hrs./wk.**	**C**	**O**	**Ext./Int.**	**Cat.**
1.	20MEE01	Industrial Practice (21 Days) / Publication in Journals (National/International) / IPR	-	-	2	-	-	EES
		Total	**-**	**-**	**2**	**-**	**-**	

SCHEME OF CREDIT DISTRIBUTION – SUMMARY

SL. No.	Stream	Credits/Semester									C	%
		I	II	III	IV	V	VI	VII	VIII			
1	Humanities & Social Sciences Including Management (HSMC)	3	3	-	-	-	-	3	-		9	5.45
2	Basic Sciences (BSC)	8.5	8.5	4	4	-	-	-	-		25	15.15
3	Engineering Sciences (ESC)	10.5	11	3	-	-	-	4	-		28.5	17.27
4	Professional Core (PCC)	-	-	16.5	17	13	7	-	-		53.5	32.42
5	Professional Electives (PEC)	-	-	-	-	3	9	6	-		18	10.91
6	Open Electives (OEC) / Emerging Courses (EC)/ Emerging Elective Courses (EEC)	-	-	-	3	6	3	3	-		15	9.09
7	Project Work (PROJ)	-	-	-	-	-	1	1	12		14	8.48
8.	Employability Enhancement Skills (EES)	-	-	-	-	-	-	-	-	2	2	1.21
9.	Mandatory Course (MC)	-	-	-	-	-	-	-	-		0	0
Total		22	22.5	23.5	24	22	20	17	12	2	**165**	100

STRUCTURE FOR UNDERGRADUATE ENGINEERING PROGRAM

S.No.	Course Work - Subject Area	AICTE Suggested Credits	AICTE model curriculum credits	SKCET Credits (165)
1.	Humanities and Social Sciences (HS), including Management;	12*	6	**9**
2.	Basic Sciences(BS) including Mathematics, Physics, Chemistry, Biology;	25*	30	**25**
3.	Engineering Sciences (ES), including Materials, Workshop, Drawing, Basics of Electrical/Electronics/Mechanical/Computer Engineering, Instrumentation;	24*	27	**28.5**
4.	Professional Subjects-Core (PC), relevant to the chosen specialization/branch; (May be split into Hard (no choice) and Soft (with choice), if required ;)	48*	50.5	**53.5**
5.	Professional Subjects – Electives (PE), relevant to the chosen specialization/ branch;	18*	18	**18**
6.	Open Subjects- Electives (OE), from other technical and/or emerging subject areas;	18*	12	**15**
7.	Project Work, Seminar and/or Internship in Industry or elsewhere.	15*	15	**14**
8.	Employability Enhancement Skills	Non-credit		**2**
9.	Mandatory Courses (MC);	Non-credit		
Total		160*	158.5	**165**
Minor Variations is allowed as per need of the respective disciplines				

HUMANITIES & SOCIAL SCIENCES INCLUDING MANAGEMENT (9 Credits)

SL. No.	Course Code	Course Title	L/T/P	Contact hrs./Wk.	C	Cat.
1.	20EN101	Technical Communication Skills	2/0/2	4	3	HSMC
2.	20GE201	Universal Human Values	3/0/0	3	3	HSMC
3.	20ME701	Industrial Engineering and Operations Management	3/0/0	3	3	HSMC

BASIC SCIENCE COURSES (25 Credits)

SL. No.	Course Code	Course Title	L/T/P	Contact hrs./Wk.	C	Cat.
1.	20MA101	Engineering Mathematics I	2/1/2	5	4	BSC
2.	20CH101	Engineering Chemistry	3/0/3	6	4.5	BSC
3.	20MA201	Engineering Mathematics II	2/1/2	5	4	BSC
4.	20PH201	Applied Physics	3/0/3	6	4.5	BSC
5.	20MA301	Engineering Mathematics III	2/1/2	5	4	BSC
6.	20MA401	Probability and Numerical Methods	2/1/2	5	4	BSC

ENGINEERING SCIENCE COURSES (23 Credits)

SL. No.	Course Code	Course Title	L/T/P	Contact hrs./Wk.	C	Cat.
1.	20CS111	Problem Solving using C Programming	3/0/2	5	4	ESC
2.	20ME101	Engineering Drawing	1/0/3	4	2.5	ESC
3.	20EE111	Basics of Electrical and Electronics Engineering	3/0/2	5	4	ESC
4.	20ME201	Engineering Mechanics	3/1/0	4	4	ESC
5.	20ME202	Manufacturing Technology I	3/0/0	3	3	ESC
6.	20ME103	Engineering Practices Laboratory	0/0/3	3	1.5	ESC
7.	20CS211	Python for Engineers Laboratory	1/0/3	4	2.5	ESC
8.	20ME304	Industrial Metallurgy	3/0/0	3	3	ESC
9.	20ME702	Mechatronics (with Lab)	3/0/2	5	4	ESC

PROFESSIONAL CORE COURSES (62 Credits)

SL. No.	Course Code	Course Title	L/T/P	Contact hrs./Wk.	C	Cat.
1.	20ME301	Solid Mechanics	3/1/0	5	4	PCC
2.	20ME302	Engineering Thermodynamics	3/1/0	5	4	PCC
3.	20ME303	Fluid Mechanics and Machinery	3/0/0	3	3	PCC
4.	20ME305	Manufacturing Technology- II (with Lab)	3/0/2	5	4	PCC
5.	20ME306	Fluid Mechanics and Strength of Materials Laboratory	0/0/3	3	1.5	PCC
6.	20ME401	Automobile Engineering (Industry based Course)	2/0/2	4	3	PCC
7.	20ME402	Mechanics of Machines	3/1/0	4	4	PCC

8.	20ME403	Metrology and Instrumentation	3/0/0	3	3	PCC
9.	20ME404	Thermal Engineering (with Lab)	3/0/2	5	4	PCC
10.	20ME405	Computer Aided Machine Drawing	0/0/3	3	1.5	PCC
11	20ME406	Metrology and Dynamics Laboratory	0/0/3	3	1.5	PCC
12.	20ME501	Design of Machine Elements (Project based Course)	3/0/1	4	3.5	PCC
13.	20ME502	Applied Hydraulics and Pneumatics (Project based course)	2/0/2	4	3	PCC
14.	20ME503	Heat and Mass Transfer (with Lab)	3/0/2	5	4	PCC
15.	20ME504	CAD/CAM Laboratory	1/0/3	4	2.5	PCC
16.	20ME601	Design of Transmission Systems	3/0/0	3	3	PCC
17.	20ME602	Computational Mechanics	3/0/2	5	4	PCC

PROFESSIONAL ELECTIVE COURSES (18 Credits)

SL. No.	Course Code	Course Title	L/T/P	Contact hrs./Wk.	C	Cat.
ELECTIVE STREAM I – ENGINEERING DESIGN						
1.	20ME901	Product Design and Development	3/0/0	3	3	PEC
2.	20ME902	Tool and Die Design	3/0/0	3	3	PEC
3.	20ME903	Fundamentals of Fracture Mechanics	3/0/0	3	3	PEC
4.	20ME904	Design for Manufacturing and Assembly	3/0/0	3	3	PEC
5.	20ME905	Optimization Techniques in Engineering Design	3/0/0	3	3	PEC
6.	20ME906	Industrial Robotics	3/0/0	3	3	PEC
7.	20ME907	Engineering Failure Analysis	3/0/0	3	3	PEC
8.	20ME908	MEMS/NEMS	3/0/0	3	3	PEC
9.	20ME909	Surface Engineering	3/0/0	3	3	PEC
ELECTIVE STREAM II - THERMAL ENGINEERING						
1.	20ME910	Non-Conventional Energy Sources	3/0/0	3	3	PEC
2.	20ME911	Refrigeration and Air Conditioning	3/0/0	3	3	PEC
3.	20ME912	Alternate Fuels and E-Vehicle Technology	3/0/0	3	3	PEC
4.	20ME913	Turbo Machines	3/0/0	3	3	PEC
5.	20ME914	Gas Dynamics and Jet Propulsion	3/0/0	3	3	PEC
6.	20ME915	Power Plant Engineering	3/0/0	3	3	PEC
7.	20ME916	Energy Conservation and Management	3/0/0	3	3	PEC
8.	20ME917	Internal Combustion Engines	3/0/0	3	3	PEC
9.	20ME918	Cryogenic Engineering	3/0/0	3	3	PEC

ELECTIVE STREAM III - MANUFACTURING /INDUSTRIAL ENGINEERING						
1.	20ME919	Composite Materials, Processing and Applications	3/0/0	3	3	PEC
2.	20ME920	Industrial Layout, Ergonomics and Safety Engineering	3/0/0	3	3	PEC
3.	20ME921	Additive Manufacturing	3/0/0	3	3	PEC
4.	20ME922	Lean Six Sigma	3/0/0	3	3	PEC
5.	20ME923	Theory of Metal Cutting	3/0/0	3	3	PEC
6.	20ME924	Entrepreneurship Development and Managerial Skills	3/0/0	3	3	PEC
7.	20ME925	Special Manufacturing Processes	3/0/0	3	3	PEC
8.	20ME926	Engineering Management and Financial Accounting	3/0/0	3	3	PEC
9.	20ME927	Advanced Casting and Welding Processes	3/0/0	3	3	PEC

OPEN ELECTIVE COURSES
(Offered to Other Branches)

SL. No.	Course Code	Course Title	L/T/P	Contact hrs./Wk.	C	Cat.
1.	20ME001	Industrial Safety	3/0/0	3	3	OEC
2.	20ME002	Fundamentals of MEMS/NEMS	3/0/0	3	3	OEC
3.	20ME003	Total Quality Management	3/0/0	3	3	OEC
4.	20ME004	Product Development	3/0/0	3	3	OEC
5.	20ME005	Fundamentals of Additive Manufacturing	3/0/0	3	3	OEC
6.	20ME006	Technology Management	3/0/0	3	3	OEC

EMERGING ELECTIVE COURSES

SL. No.	Course Code	Course Title	L/T/P	Contact hrs./Wk.	C	Cat.
1.	20ME007	Applied Soft Computing Techniques	2/0/2	4	3	EEC
2.	20ME008	Internet of Things for Mechanical Engineers	2/0/2	4	3	EEC
3.	20ME009	Data Analytics for Mechanical Engineers	2/0/2	4	3	EEC
4.	20ME010	Expert System and Machine Learning	2/0/2	4	3	EEC
5.	20ME011	Fuel Cells	2/0/2	4	3	EEC
6.	20ME012	Product Life Cycle Management	2/0/2	4	3	EEC

PROJECT WORK (14 Credits)

SL. No.	Course Code	Course Title	L/T/P	Contact hrs./Wk.	C	Cat.
1.	20ME603	Design Thinking and Mini Project	0/0/2	2	1	PROJ
2.	20ME703	Phase I – Project Work	0/0/2	2	1	PROJ
3.	20ME801	Phase II – Project Work	0/0/24	24	12	PROJ

EMPLOYABILITY ENHANCEMENT SKILLS (2 Credits)

SL. No.	Course Code	Course Title	L/T/P	Contact hrs./Wk.	C	Cat.
1.	20MEE01	Industrial Practice (21 Days) and Publication in Journals (National/International) / IPR	-	-	2	EES

MANDATORY COURSES (Non Credits)

SL. No.	Course Code	Course Title	L/T/P	Contact hrs./Wk.	C	Cat.
1.	20MC101	Induction Program	3 WEEKS		0	MC
2.	20MC102	Environmental Sciences	2/0/0	2	0	MC
3.	20MC103	Soft Skills	2/0/0	2	0	MC
4.	20MC104	Management Organizational Behavior	2/0/0	2	0	MC
5.	20MC105	General Aptitude	2/0/0	2	0	MC
6.	20MC106	Life Skills and Ethics	2/0/0	2	0	MC
7.	20MC107	Stress Management	2/0/0	2	0	MC
8.	20MC108	Constitution of India	2/0/0	2	0	MC
9.	20MC109	Essence of Indian Traditional Knowledge	2/0/0	2	0	MC
10.	20MC110	Biology	2/0/0	2	0	MC

ONE CREDIT COURSES (Additional Credits)

S.No	Course Code	Course Title	Credits
1.	20MEA01	Certification in Creo, ANSYS, CFD, LabVIEW, CATIA, NDT etc.,	1
2.	20MEA02	Any other certification from MNCs/OEMs, Texas Instruments, Bosch, Rexroth, SAE Skill India etc.,	1
3.	20MEA03	NSS	1
4.	20MEA04	Spoken Hindi	1
5.	20MEA05	Vehicle Design and Fabrication	1
6.	20MEA06	Foreign Language	1
7.	20MEA07	Massive Open Online Courses (MOOC) / NPTEL	1
8.	20MEA08	Industrial Training	1

SERVICE SUBJECTS

SL. No.	Course Code	Course	L/T/P	Contact hrs/week	Credit	Ext/Int	Category
1	20ME103	Engineering Practices Laboratory	0/0/3	3	1.5	40/60	ES
2	20ME111	Engineering Graphics	1/0/3	4	2.5	40/60	ES

SEMESTER WISE CREDIT DISTRIBUTION: -

Semester	I	II	III	IV	V	VI	VII	VIII	EES	Total
Credits	22	22.5	23.5	24	22	20	17	12	2	165

Total Credits: 165

L: Lecture **T:** Tutorial **P:** Practical **C:** Credit **O:** Outside Class hours **Cat.:** Category

HSMC : Humanities and Social Sciences including Management
BSC : Basic Science Courses
ESC : Engineering Science Courses
PCC : Professional Core Courses
PEC : Professional Elective Courses
OEC : Open Elective Courses
EEC : Emerging Elective Courses
EC : Emerging Courses
PROJ : Project Work
EES : Employability Enhancement Skills
MC : Mandatory Course

Definition of Credit:

L – Lecture	1 Hr. Lecture (L) per week	1 credit
T – Tutorial	1 Hr. Tutorial (T) per week	1 credit
P - Practical/Practice (Project and Industry based Courses)	1 Hr. Practical (P) per week	0.5 credit