S. D. M. College of Engineering & Technology, Dharwad.

Department of Mechanical Engineering

2015 scheme

(Before revision)

Scheme of Teaching and Examination

I Semester B. E. (Common to all Branches)

Physics group

Course code	Course title	Teaching		Examination				
		L-T-P-S (Hrs/week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
				Max. Marks	*Max Marks	Duration in hours	Max. Marks	Duration in hours
15UMAC100	Engineering Mathematics-1	4-0-0-0	4	50	100	3	-	-
15UEEC100	Basic Electrical Engineering	4-0-0-0	4	50	100	3	-	-
15UPHC100	Engineering Physics	4-0-0-0	4	50	100	3	-	-
15UPHL100	Engineering Physics Lab	0-0-2-0	1	50	-	-	50	3
15UMEC100	Elements of Mechanical Engineering	4-0-0-0	4	50	100	3	-	-
15UMEL100	Workshop Practice	0-0-2-0	1	50	-	-	50	3
15UCVC100	Engineering Mechanics	3-0-0-4	4	50	100	3	-	-
15UHUA101	Kannada	2-0-0-0	Audit	100	-	-	-	-
15UHUA102	Constitution of India & Professional Ethics	2-0-0-0		100	-	-	-	-
	Total	22-0-4-5	22	550	500	-	100	-

CIE: Continuous Internal Evaluation SEE: Semester End Examination L: Lecture T: Tutorials P: Practical *SEE for theory courses is conducted for 100 marks and reduced to 50 marks.

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Chemistry group

Course code	Course title	Teaching		Examination				
		L-T-P-S (Hrs/week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
				Max. Marks	*Max Marks	Duration in hours	Max. Marks	Duration in hours
15UMAC100	Engineering Mathematics–1	4-0-0-0	4	50	100	3	-	-
15UECC100	Basic Electronics	4-0-0-0	4	50	100	3	-	-
15UCYC100	Engineering Chemistry	4-0-0-0	4	50	100	3	-	-
15UCYL100	Engineering Chemistry lab	0-0-2-0	1	50	-	-	50	3
15UCSC100	Problem Solving & Programming in C	4-0-0-0	4	50	100	3	-	-
15UCSL100	Problem Solving & Programming in C Lab	0-0-2-0	1	50	-	-	50	3
15UMEC101	Computer Aided Engineering Drawing	2-0-4-0	4	50	-	-	50	03
15UHUC100	Functional English	2-0-0-0	2	50	100	3	-	-
15UHUA103	Environmental Science	2-0-0-0	Audit	100	-	-	-	-
	Total	22-0-6-0	24	500	500	-	150	-

II Semester B. E. (Common to all Branches)

Chemistry group

Course code	Course title	Teaching		Examination				
		L-T-P-S (Hrs/week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
				Max. Marks	*Max Marks	Duration in hours	Max. Marks	Duration in hours
15UMAC200	Engineering Mathematics-2	4-0-0-0	4	50	100	3	-	-
15UEEC200	Basic Electrical Engineering	4-0-0-0	4	50	100	3	-	-
15UPHC200	Engineering Physics	4-0-0-0	4	50	100	3	-	-
15UPHL200	Engineering Physics Lab	0-0-2-0	1	50	-	-	50	3
15UMEC200	Elements of Mechanical Engineering	4-0-0-0	4	50	100	3	-	-
15UMEL200	Workshop Practice	0-0-2-0	1	50	-	-	50	3
15UCVC200	Engineering Mechanics	3-0-0-4	4	50	100	3	-	-
15UHUA201	Kannada	2-0-0-0	Audit	100	-	-	-	-
15UHUA202	Constitution of India & Professional Ethics	2-0-0-0		100	-	-	-	-
	Total	22-0-4-5	22	550	500	-	100	-

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Physics group

Course code	Course title	Teaching		Examination				
		L-T-P-S (Hrs/week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
				Max. Marks	*Max Marks	Duration in hours	Max. Marks	Duration in hours
15UMAC200	Engineering Mathematics–2	4-0-0-0	4	50	100	3	-	-
15UECC200	Basic Electronics	4-0-0-0	4	50	100	3	-	-
15UCYC200	Engineering Chemistry	4-0-0-0	4	50	100	3	-	-
15UCYL200	Engineering Chemistry lab	0-0-2-0	1	50	-	-	50	3
15UCSC200	Problem Solving & Programming in C	4-0-0-0	4	50	100	3	-	-
15UCSL200	Problem Solving & Programming in C Lab	0-0-2-0	1	50	-	-	50	3
15UMEC201	Computer Aided Engineering Drawing	2-0-4-0	4	50	-	-	50	03
15UHUC200	Functional English	2-0-0-0	2	50	100	3	-	-
15UHUA203	Environmental Science	2-0-0-0	Audit	100	-	-	-	-
	Total	22-0-4-5	24	550	500	-	100	-

III semester

Course code	Course title	Teaching		Examination				
		L-T-P(Hrs/week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
				Max. Marks	*Max Marks	Duration in hours	Max. Marks	Duration in hours
15UMAC300	Engineering Mathematics - III	4-0-0	4	50	100	3	-	-
15UMEC300	Basic Thermodynamics	4-0-0	4	50	100	3	-	-
15UMEC301	Basic Manufacturing Processes	4-0-0	4	50	100	3	-	-
15UMEC302	Materials Science	4-0-0	4	50	100	3	-	-
15UMEC303	Strength of Materials	3-2-0	4	50	100	3	-	-
15UMEL304	Material Science & Material Testing Lab	0-0-2	1	50	-	-	50	3
15UMEL305	Foundry & Forging Lab	0-0-2	1	50	-	-	50	3
15UMEC306	Computer Aided Machine Drawing	2-0-4	4	50	100	3	-	-
	Total	21-2-8	26	400	600		100	

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Scheme for IV semester

Course code	Course title	Teaching		Examination				
		L-T-P (Hrs/week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
				Max. Marks	*Max Marks	Duration in hours	Max. Marks	Duration in hours
15UMAC400	Engineering Mathematics – IV	4-0-0	4	50	100	3	-	-
15UMEC400	Machine Design – I	3-2-0	4	50	100	3	-	-
15UMEC401	Mechanical Measurements	4-0-0	4	50	100	3	-	-
15UMEC402	Fluid Mechanics	4-0-0	4	50	100	3	-	-
15UMEC403	Applied Thermodynamics	3-2-0	4	50	100	3	-	-
15UMEC404	Manufacturing Technology	4-0-0	4	50	100	3	-	-
15UMEL405	Measurements Lab	0-0-2	1	50	-	-	50	3
15UMEL406	Energy Conversion lab	0-0-2	1	50	-	-	50	3
	Total	22-4-4	26	400	600	-	100	-

CIE: Continuous Internal Evaluation SEE: Semester End Examination L: Lecture T: Tutorials *SEE for theory courses is conducted for 100 marks and reduced to 50 marks

V Semester

Course code	Course title	Teaching		Examination				
		L-T-P (Hrs/week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
				Max. Marks	*Max Marks	Duration in hours	Max. Marks	Duration in hours
15UMEC500	Management, Economics & Intellectual Property Rights.	4-0-0	4	50	100	3		
15UMEC501	Kinematics of Machines	3-2-0	4	50	100	3	-	-
15UMEC502	Turbo machines	3-2-0	4	50	100	3	-	-
15UMEC503	Machine Design – II	3-2-0	4	50	100	3	-	-
15UMEL504	Fluid Mechanics and Fluid Machinery Lab	0-0-2	1	50	-	-	50	3
15UMEL505	Machine shop Practice	0-0-2	1	50	-	-	50	3
15UMEEXXX	Elective – 1	4-0-0	4	50	100	3		
15UMEEXXX	Elective – 2	4-0-0	4	50	100	3		
	Total	21-6-4	26	400	600	-	100	-

CIE: Continuous Internal Evaluation SEE: Semester End Examination L: Lecture T: Tutorials P: Practical *SEE for theory courses is conducted for 100 marks and reduced to 50 marks

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Electives

Course code	Elective Courses
15UMEE525	Refrigeration & Air conditioning
15UMEE526	Internal Combustion Engines
15UMEE527	Tool Design Engineering
15UMEE528	CAD / CAM
15UMEE529	Theory of elasticity
15UMEE530	Deign of IC engines

Scheme for VI semester

Course Code	Course Title	Teaching		Examination				
		L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
				Max. Marks	*Max. Marks	Duration in hours	Max. Marks	Duration In hours
15UMEC600	Finite Element Methods	3-2-0	4	50	100	3	-	-
15UMEC601	Heat Transfer	3-2-0	4	50	100	3	-	-
15UMEC602	Dynamics of Machinery	3-2-0	4	50	100	3	-	-
15UMEL603	Heat Transfer Lab	0-0-2	1	50	-	-	50	3
15UMEL604	CEA / CAM Lab	0-0-2	1	50	-	-	50	3
15UMEL605	Mini Project	0-0-6	3	50	-	-	50	3
15UMEEXXX	Elective – 3	4-0-0	4	50	100	3	-	-
15UMEEXXX	Elective – 4	4-0-0	4	50	100	3	-	-
	Total	17-6-10	25	400	500	-	150	-

CIE: Continuous Internal Evaluation SEE: Semester End Examination L: Lecture T: Tutorials P: Practical
*SEE for theory courses is conducted for 100 marks and reduced to 50 marks

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Elective courses

Course Code	Elective Courses
15UMEE625	Engineering System Design
15UMEE626	Organizational Behavior
15UMEE627	Jet Propulsion
15UMEE628	Solar Energy
15UMEE629	Advanced Fluid Dynamics
15UMEE630	Tribology & Bearing Design
15UMEE631	Design and Analysis of experiments
15UMEE632	Design & Drawing of Assemblies

Note: Industrial visit/internship for every student during the vacation after VI semester and assessment of the report to be done during the VII semester with 02 credits.

VII Semester

Course code	Course title	Teaching		Examination				
		L-T-P (Hrs/week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
				Max. Marks	*Max Marks	Duration in hours	Max. Marks	Duration in hours
15UMEC700	Mechanical Vibrations	3-2-0	4	50	100	3	-	-
15UMEC701	Hydraulics & Pneumatics	4-0-0	4	50	100	3	-	-
15UMEC702	Operation Research & Optimization Techniques	3-2-0	4	50	100	3	-	-
15UMEL703	Dynamics Lab	0-0-2	1	50	-	-	50	3
15UMEL704	Project – Phase 1	0-0-8	4	50	-	-	50	3
15UMEEXXX	Elective – 5	4-0-0	4	50	100	3	-	-
15UMEEXXX	Elective – 6	4-0-0	4	50	100	3	-	-
	Total	18-4-10	25	350	500	-	100	-

CIE: Continuous Internal Evaluation SEE: Semester End Examination L: Lecture T: Tutorials P: Practical
*SEE for theory courses is conducted for 100 marks and reduced to 50 marks

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Electives

Course code	Course title
15UMEE725	Non-conventional Energy Sources
15UMEE726	Total Quality Management
15UMEE727	Computer Integrated Manufacturing
15UMEE728	Computational Fluid Dynamics
15UMEE729	Experimental Stress Analysis
15UMEE730	Synthesis of Mechanisms
15UMEE731	Power Plant Engineering
15UMEE732	Value Engineering
15UMEE733	Introduction to Aircraft Industry & Aircraft Systems*
15UMEE734	Project Management

* Interdisciplinary elective open for all Engineering Departments

VIII Semester

Course Code	Course Title	Teaching		Examination				
		L-T-P(Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
				Max. Marks	*Max. Marks	Duration in hours	Max. Marks	Duration In hours
15UMEC800	Control Engineering	3-2-0	4	50	100	3	-	-
15UMEC801	Mechatronics	4-0-0	4	50	100	3	-	-
15UMEL802	Seminar on current topic	0-0-4	2	50	-	-	-	-
15UMEL803	Project – Phase 2	0-0-16	8	50	-	-	50	3
15UMEEXXX	Elective – 7	4-0-0	4	50	100	3	-	-
15UMEEXXX	Elective – 8	4-0-0	4	50	100	3	-	-
	Total	15-2-20	26	300	400	-	50	-

CIE: Continuous Internal Evaluation SEE: Semester End Examination L: Lecture T: Tutorials P: Practical *SEE for theory courses is conducted for 100 marks and reduced to 50 marks

Electives

Course Code	Course Title
15UMEE825	Design of Heat Exchangers
15UMEE826	Machine Tool Design
15UMEE827	Energy Management
15UMEE828	Cryogenics

15UMEE829	Fracture Mechanics
15UMEE830	Industrial Robotics
15UMEE831	Automotive Engineering
15UMEE832	Design of Aircraft Structures*
15UMEE833	Advanced Finite Elements Method

* Inter disciplinary elective open for all Engineering Departments

CIE: Continuous Internal Evaluation **SEE**: Semester End Examination

L: Lecture **T**: Tutorials **P**: Practical

*SEE for theory courses is conducted for 100 marks and reduced to 50 marks.

Note:

Interdisciplinary Elective open for all Engineering Branches:

MA470: Applied Numerical Methods (VIII Sem)

For detailed syllabus contact HOD of Mathematics department

PH420: Nano Technology (VIII Sem)

For detailed syllabus contact HOD of Physics department

HOD-ME

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2018 scheme

After revision

I Semester B.E.

Physics cycle

Course Code	Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
18UMAC100	BS	Engineering Mathematics-I	3 - 1 - 0	4	50	100	3	-	-
18UPHC100	BS	Engineering Physics	3 - 1 - 0	4	50	100	3	-	-
18UEEC100	ES	Basic Electrical Engineering	3 - 0 - 0	3	50	100	3	-	-
18UCVC100	ES	Engineering Mechanics	3 - 0 - 0	3	50	100	3	-	-
18UMEC100	ES	Elements of Mechanical Engineering	2 - 0 - 0	2	50	100	--	-	-
18UPHL100	BS	Engineering Physics Lab	0 - 0 - 2	1	50	--	--	50	3
18UESL100	ES	Basic Engineering Skills Lab	0-0-3	1	50	--	--	50	3
18UHUC100	HU	Kannada	2- 0 -0	1	50	50	2		
18UHUA100	HU	Constitution of India & Professional Ethics	2- 0 - 0	Audit	100	--	--	--	--
Total			**18 - 2 -5**	**19**	**500**	**550**		**100**	

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Chemistry cycle

Course Code	Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
18UMAC100	BS	Engineering Mathematics-I	3 - 1 - 0	4	50	100	3	-	-
18UCYC100	BS	Engineering Chemistry	3 - 1 - 0	4	50	100	3	-	-
18UECC100	ES	Basic Electronics	3 - 0 - 0	3	50	100	3	-	-
18UCSC100	ES	Problem Solving & Programming in C	4 - 0 - 0	4	50	100	3	-	-
18UMGC100	ES	Engineering Graphics	2-0-2	3	50	--	-	50	3
18UCYL100	BS	Engineering Chemistry Lab	0 - 0 - 2	1	50	--	--	50	3
18UCSL100	ES	Problem Solving & Programming in C Lab	0 - 0 - 2	1	50	--	--	50	3
18UHUC101	HU	Functional English	2 - 0 -0	1	50	50	2	--	--
18UHUA102	HU	Environmental Science	2 - 0 - 0	Audit	100	--	--	--	--
Total			**19 - 2 - 6**	**21**	**500**	**450**		**150**	

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II Semester B.E.

Physics cycle

Course Code	Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
18UMAC200	BS	Engineering Mathematics-II	3 - 1 - 0	4	50	100	3	-	-
18UPHC200	BS	Engineering Physics	3 - 1 - 0	4	50	100	3	-	-
18UEEC200	ES	Basic Electrical Engineering	3 - 0 - 0	3	50	100	3	-	-
18UCVC200	ES	Engineering Mechanics	3 - 0 - 0	3	50	100	3	-	-
18UMEC200	ES	Elements of Mechanical Engineering	2 - 0 - 0	2	50	100	--	-	-
18UPHL200	BS	Engineering Physics Lab	0 - 0 - 2	1	50	--	--	50	3
18UESL200	ES	Basic Engineering Skills Lab	0-0-3	1	50	--	--	50	3
18UHUC200	HU	Kannada	2- 0 -0	1	50	50	2		
18UHUA200	HU	Constitution of India & Professional Ethics	2- 0 - 0	Audit	100	--	--	--	--
Total			**18 - 2 -5**	**19**	**500**	**550**		**100**	

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Chemistry cycle

Course Code	Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
18UMAC200	BS	Engineering Mathematics-II	3 - 1 - 0	4	50	100	3	-	-
18UCYC200	BS	Engineering Chemistry	3 - 1 - 0	4	50	100	3	-	-
18UECC200	ES	Basic Electronics	3 - 0 - 0	3	50	100	3	-	-
18UCSC200	ES	Problem Solving & Programming in C	4 - 0 - 0	4	50	100	3	-	-
18UMGC200	ES	Engineering Graphics	2-0-2	3	50	--	-	50	3
18UCYL200	BS	Engineering Chemistry Lab	0 - 0 - 2	1	50	--	--	50	3
18UCSL200	ES	Problem Solving & Programming in C Lab	0 - 0 - 2	1	50	--	--	50	3
18UHUC201	HU	Functional English	2 - 0 -0	1	50	50	2	--	--
18UHUA202	HU	Environmental Science	2 - 0 - 0	Audit	100	--	--	--	--
Total			**19 - 2 - 6**	**21**	**500**	**450**		**150**	

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III Semester

Course Code	Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
18UMAC300	BS	Engineering Mathematics-III	3 - 0 - 0	3	50	100	3	-	-
18UMEC300	PC	Basic Thermodynamics	3 - 2 - 0	4	50	100	3	-	-
18UMEC301	PC	Materials Science	4 - 0 - 0	4	50	100	3	-	-
18UMEC302	PC	Strength of Materials	3 - 2 - 0	4	50	100	3	-	-
18UMEC303	PC	Manufacturing Processes - I	3 - 0 - 0	3	50	100	3	--	--
18UMEC304	PC	Machine Drawing	2-0-2	3	50	100	3	--	--
18UMEL305	PC	Materials Science & Materials Testing Lab	0 - 0 - 3	1.5	50	--	--	50	3
18UMEL306	PC	Foundry & Forging Lab	0 - 0 - 3	1.5	50	--	--	50	3
		Total	**18- 4- 8**	**24**	**400**	**600**		**100**	

BS- Basic Science, **PC**- Program Core

CIE: Continuous Internal Evaluation **SEE**: Semester End Examination

L: Lecture **T**: Tutorials **P**: Practical

*SEE for theory courses is conducted for 100 marks and reduced to 50 marks

IV Semester

Course Code	Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
18UMAC400	BS	Engineering Mathematics-IV	3 - 0 - 0	3	50	100	3	-	-
18UMEC400	PC	Fluid Mechanics	3 - 2 - 0	4	50	100	3	-	-
18UMEC401	PC	Manufacturing Processes - II	4 - 0 - 0	4	50	100	3	-	-
18UMEC402	PC	Applied Thermodynamics	3 - 2 - 0	4	50	100	3	-	-
18UMEC403	PC	Metrology and Measurements	3 - 0 - 0	3	50	100	3	--	--
18UMEC404	PC	Design of Machine Elements-I	2 - 2 - 0	3	50	100	3	--	--
18UMEL405	PC	Measurements Lab	0 - 0 - 3	1.5	50	--	--	50	3
18UMEL406	PC	Thermal Engineering Lab - I	0 - 0 -3	1.5	50	--	--	50	3
18UMEL407	PC	Introductory Project	0 - 0 -2	1	50	--	--	--	--
		Total	**18 - 6 - 8**	**25**	**450**	**600**		**100**	

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V Semester

Course Code	Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
18UHUC500	HU	Management, Economics &Intellectual Property Rights	4-0-0	4	50	100	3	-	-
18UMEC500	PC	Theory of Machines	3-2-0	4	50	100	3	-	-
18UMEC501	PC	Design of Machine Elements-II	3-2-0	4	50	100	3	-	-
18UMEC502	PC	Turbo machines	2-2-0	3	50	100	3	-	-
18UMEC503	PC	Renewable Energy Technology	3-0-0	3	50	100	3	--	--
18UMEE5XX	PE	Program Elective-1	3-0-0	3	50	100	3	--	--
18UMEL504	PC	Machine shop Practice	0-0-3	1.5	50	--	--	50	3
18UMEL505	PC	Thermal Engg. Lab - II	0-0-3	1.5	50	--	--	50	3
18UMEL506	PC	Minor Project-1	0-0-2	1	50	--	--	--	--
18UHUL507	HU	Soft skills/Aptitude	0-0-2	1	50	--	--	--	--
		Total	**18-6-10**	**26**	**500**	**600**		**100**	

Electives

Course code	Elective Courses (PE – 1)
18UMEE521	CAD/CAM **(Computer aided design / Computer aided manufacturing)**
18UMEE522	Non -traditional machining
18UMEE523	CNC Machine technology
18UMEE524	Introduction to composite materials
18UMEE525	Production Planning & control
18UMEE526	Advanced Metal Joining Technology
18UMEE527	Fundamentals of Automobile Design **(Ready Engineer by TATA Technologies)**

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VI Semester

Course Code	Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
18UMEC600	PC	Heat Transfer	3-2-0	4	50	100	3	-	-
18UMEC601	PC	Finite Element Methods	3-2-0	4	50	100	3	-	-
18UMEE6XX	PE	Program Elective-2	3-0-0	3	50	100	3	-	-
18UMEE6XX	PE	Program Elective-3	3-0-0	3	50	100	3	-	-
18UMEO6XX	OE	Open Elective-1	3-0-0	3	50	100	3	--	--
18UMEL602	PC	Computer Aided Engineering Analysis Lab	0-0-3	1.5	50	--	--	50	3
18UMEL603	PC	Thermal Engg. Lab - III	0-0-3	1.5	50	--	--	50	3
18UMEL604	PC	Minor Project-2	0-0-4	2	50	--	--	50	3
18UHUL605	HU	Soft skills/Aptitude	0-0-2	1	50	--	--	--	--
		Total	**15-4-12**	**23**	**450**	**500**		**150**	

Electives

Course code	Elective Courses (PE-2)	Course code	Elective Courses (PE– 3)	Course code	Elective Courses (OE–1)
18UMEE621	Refrigeration & Air conditioning	18UMEE631	Tool Design Engg.	18UMEO641	Mechatronics
18UMEE622	Nuclear Energy Systems	18UMEE632	Theory of Elasticity	18UMEO642	Total Quality Management
18UMEE623	Advanced Fluid Dynamics	18UMEE633	Mechanical Behavior of Engg. Materials.	18UMEO643	Sustainable Building Technology
18UMEE624	Internal Combustion Engines	18UMEE634	Design and Drawing of Mech. Assemblies	18UMEO644	Work Flow Management
18UMEE625	Cryogenics	18UMEE635	Experimental stress analysis	18UMEO645	Design Thinking
18UMEE626	Alternate Fuels	18UMEE636	Design of IC Engine Components	18UMEO646	Smart Materials and Structures
18UMEE627	Gas Dynamics	18UMEE637	Advanced Automobile Design (Ready Engineer by TATA Technologies)	18UMEO647	Introduction to Scientific programming

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Scheme for VII Semester

Course Code	Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
18UMEC700	PC	Mechanical Vibrations	3 - 2 - 0	4	50	100	3	-	-
18UMEC701	PC	Control Engineering	3 - 2 - 0	4	50	100	3	-	-
18UMEE7XX	PE	Program Elective-4	3 - 0 - 0	3	50	100	3	-	-
18UMEO7XX	OE	Open Elective-2	3 - 0 - 0	3	50	100	3	--	--
18UMEL702	PC	Dynamics Laboratory	0 - 0 - 2	1	50	--	--	50	3
18UMEL703	PC	Major Project Phase-1	0- 0 - 4	2	50	--	--	50	3
18UMEL704	PC	Internship	4weeks	2	50	--	--	50	3
Total			**12 - 4 -6**	**19**	**350**	**400**		**150**	

PC- Program Core, PE-Program Elective, OE- Open Elective and HU- Humanities

Electives

Course code	Elective Courses (PE-4)	Course code	Elective Courses (OE–2)
18UMEE721	Power Plant Engineering	18UMEO731	Introduction to Aircraft Industry & Aircraft Systems
18UMEE722	Design of Heat Exchangers	18UMEO732	Project Management
18UMEE723	Hybrid Vehicle Technology	18UMEO733	Energy Management
18UMEE724	Computational Fluid Dynamics	18UMEO734	Design of Renewable Energy Systems
18UMEE725	Advanced Heat Transfer		
18UMEE726	Heating Ventilation and Air Conditioning		
18UMEE727	Battery and Fuel Cell Technology		

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Scheme for VIII Semester

Course Code	Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs /Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
18UMEC800	PC	Fluid Power Control	4 - 0 - 0	4	50	100	3	-	-
18UMEE8XX	PE	Program Elective-5	3 - 0 - 0	3	50	100	3	-	-
18UMEE8XX	PE	Program Elective-6	3 - 0 - 0	3	50	100	3	--	--
18UMEL801	PC	Technical Seminar / Independent study	0 - 0 - 2	1	50	--	--	--	--
18UMEL802	PC	Major Project Phase-2	0- 0 -12	7	50	--	--	50	3
Total			**10 - 0 - 14**	**18**	**250**	**300**	**--**	**50**	**--**

PC- Program Core, PE-Program Elective and OE- Open Elective

Electives

Course code	Elective Courses (PE- 5)	Course code	Elective Courses (PE- 6)
18UMEE821	Operations Research	18UMEE831	Design of Aircraft structures
18UMEE822	Computer Integrated Manufacturing	18UMEE832	Mechanics of Composite Materials
18UMEE823	Organizational Behavior	18UMEE833	Modeling and Simulation of Dynamic Systems
18UMEE824	Industrial Robotics	18UMEE834	Tribology and Bearing Design
18UMEE825	Rapid Prototyping And Rapid Tooling	18UMEE835	Failure Analysis
18UMEE826	Design For Manufacturing And Assembly	18UMEE836	Surface Engineering
18UMEE827	Estimation and Costing in Mechanical Engineering	18UMEE837	Industry 4.0 & Artificial intelligence

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After revision (2021 scheme)

I Semester B.E.

Physics cycle

Course Code	*Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	**Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
21UMAC100	BS	Engineering Mathematics-I	2 - 2 - 0	3	50	100	3	-	-
21UPHC100	BS	Engineering Physics	3 - 0 - 0	3	50	100	3	-	-
21UEEC100	ES	Basic Electrical Engineering	3 - 0 - 0	3	50	100	3	-	-
21UCVC100	ES	Elements of Civil Engineering and Mechanics	3 - 0 - 0	3	50	100	3	-	-
21UMEC100	ES	Elements of Mechanical Engineering	2 - 0 - 0	2	50	50	2	-	-
21UHUC100	HU	Functional English	1 - 2 - 0	2	50	50	2	-	-
21UPHL100	BS	Engineering Physics Lab	0 - 0 - 2	1	50	-	-	50	2
21UESL100	ES	Basic Engineering Skills Lab	0 - 0 - 2	1	50	-	-	50	2
21UAEE1XX	AE	Ability Enhancement Course	2- 0- 0	2	50	50	2	-	-
Total			**16 – 4 - 4**	**20**	**450**	**550**		**100**	

- * BS- Basic science ES- Engineering Science HU- Humanities, languages and Management AE- Ability enhancement course
- ** Semester End Examination conducted for 100 marks will be reduced to 50 marks

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- **Chemistry cycle**

Course Code	*Course Category#	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	**Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
21UMAC100	BS	Engineering Mathematics – I	2-2-0	3	50	100	3	-	-
21UCYC100	BS	Engineering Chemistry	3-0-0	3	50	100	3	-	-
21UECC100	ES	Basic Electronics	3-0-0	3	50	100	3	-	-
21UCSC100	ES	Problem Solving & Programming in C	3-0-0	3	50	100	3	-	-
21UMGC100	ES	Engineering Graphics	2-0-0	2	50	50	2	-	-
21UCYL100	BS	Engineering Chemistry Lab	0-0-2	1	50	-	-	50	2
21UCSL100	ES	Computer Programming Lab	0-0-2	1	50	-	-	50	2
21UAEE1XX	AE	Ability Enhancement Course	2-0-0	2	50	50	2	-	-
21UHUC101	HU	Society, Environment and Engineering	2 -0-0	2	50	50	2	-	-
Total			**17 - 2 -4**	**20**	**450**	**550**		100	

- * BS- Basic science ES- Engineering Science HU- Humanities, languages and Management AE- Ability enhancement course
- ** Semester End Examination conducted for 100 marks will be reduced to 50 marks
- **Elective Course:**

Course Code	Course Title	Credits
21UAEE100	**Biology for Engineers**	**2**

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- **II Semester B.E.**
  - **Physics cycle**

Course Code	*Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	**Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
21UMAC200	BS	Engineering Mathematics-II	2 - 2 - 0	3	50	100	3	-	-
21UPHC200	BS	Engineering Physics	3 - 0 - 0	3	50	100	3	-	-
21UEEC200	ES	Basic Electrical Engineering	3 - 0 - 0	3	50	100	3	-	-
21UCVC200	ES	Elements of Civil Engineering and Mechanics	3 - 0 - 0	3	50	100	3	-	-
21UMEC200	ES	Elements of Mechanical Engineering	2 - 0 - 0	2	50	50	2	-	-
21UPHL200	BS	Engineering Physics Lab	0 - 0 - 2	1	50	-	-	50	2
21UESL200	ES	Basic Engineering Skills Lab	0 - 0 - 2	1	50	-	-	50	2
21UAEE2XX	AE	Ability Enhancement Course	2- 0- 0	2	50	50	2	-	-
21UHUC201	HU	Society, Environment and Engineering	2 -0-0	2	50	50	2	-	-
Total			**17 – 2 - 4**	**20**	**450**	**550**		**100**	

- * BS- Basic science ES- Engineering Science HU- Humanities, languages and Management AE- Ability enhancement course
- ** Semester End Examination conducted for 100 marks will be reduced to 50 marks

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Chemistry cycle

Course Code	*Course Category#	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	**Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
21UMAC200	BS	Engineering Mathematics – II	2-2-0	3	50	100	3	-	-
21UCYC200	BS	Engineering Chemistry	3-0-0	3	50	100	3	-	-
21UECC200	ES	Basic Electronics	3-0-0	3	50	100	3	-	-
21UCSC200	ES	Problem Solving & Programming in C	3-0-0	3	50	100	3	-	-
21UMGC200	ES	Engineering Graphics	2-0-0	2	50	50	2	-	-
21UHUC200	HU	Functional English	1 - 2 - 0	2	50	50	2	-	-
21UCYL200	BS	Engineering Chemistry Lab	0-0-2	1	50	-	-	50	2
21UCSL200	ES	Computer Programming Lab	0-0-2	1	50	-	-	50	2
21UAEE2XX	AE	Ability Enhancement Course	2-0-0	2	50	50	2	-	-
Total			**16 - 4 -4**	**20**	**450**	**550**		100	

* BS- Basic science ES- Engineering Science HU- Humanities, languages and Management AE- Ability enhancement course

** Semester End Examination conducted for 100 marks will be reduced to 50 marks

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III Semester

Course Code	*Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	**Max. Marks	Duration in Hrs.	Max. Marks	Duration in Hrs.
21UMAC300	BS	Engineering Mathematics-III	2 - 2 - 0	3	50	100	3	-	-
21UMEC300	PC	Engineering Thermodynamics	2 - 2 - 0	3	50	100	3	-	-
21UMEC301	PC	Materials Science	3 - 0 - 0	3	50	100	3	-	-
21UMEC302	PC	Mechanics of Materials	2 - 2 - 0	3	50	100	3	-	-
21UMEC303	PC	Machine Drawing	2 - 2 - 0	3	50	100	3	-	-
21UAEE374	AE	CNC Technology (Ability Enhancement course)	2 - 0 - 0	2	50	50	2	-	-
21UHUC300	HU	Universal Human Values - I	2 - 0 - 0	2	50	50	2	-	-
21UMEL305	PC	Materials Science & Materials Testing Laboratory	0 - 0 - 3	1.5	50	--	-	50	3
21UMEL306	PC	Foundry & Forging Laboratory	0 - 0 - 3	1.5	50	-	-	50	3
21UHUA300	***HU	The Constitution of India & Professional Ethics	2 - 0 - 0	Audit	50	--	-	-	-
21UMBA301	****BS	Mathematics	3 - 0 - 0	Audit	50	-	-	-	-
	Total		**21 - 8 - 6**	**22**	**550**	**600**		**100**	

* BS- Basic science ES- Engineering Science HU- Humanities, languages and Management AE- Ability enhancement course PC- Program core

** Semester End Examination conducted for 100 marks will be reduced to 50 marks

*** Students of all branches will be divided into 2 groups, and each group will take either CIPE or Kannada in 3rd and 4th semester respectively.

**** Bridge course on Mathematics for Lateral entry students.

21UAEE3 - X : "– " is the number assigned to the department. 1- CV, 2-CSE, 3-CH, 4-EE, 5-EC, 6-ISE and 7-ME (Assuming departments offer different Ability Enhancement course for their students).

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IV Semester

Course Code	*Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	**Max. Marks	Duration in Hrs.	Max. Marks	Duration in Hrs.
21UMAC400	BS	Engineering Mathematics-IV	2 - 2 - 0	3	50	100	3	-	-
21UMEC400	PC	Manufacturing Processes	3 - 0 - 0	3	50	100	3	-	-
21UMEC401	PC	Fluid Mechanics	2 - 2 - 0	3	50	100	3	-	-
21UMEC402	PC	Design of Machine Elements	2 - 2 - 0	3	50	100	3	-	-
21UMEC403	PC	Metrology and Measurements	3 - 0 - 0	3	50	100	3	--	--
21 UHUC401	***HU	Kannada	2 – 0 – 0	1	50	50	2	--	-
21UHUC402	HU	Universal Human Values - II	2 – 0 - 0	2	50	50	2	--	--
21UMEL404	PC	Metrology and Measurements Laboratory	0 - 0 - 3	1.5	50	--	--	50	3
21UMEL405	PC	Thermal Engineering Laboratory - I	0 - 0 -3	1.5	50	--	--	50	3
21UMEL406	PC	Introductory Project	0-0–2	1	50	--	--	--	--
21UMBA401	****BS	Mathematics	3-0- 0	Audit	50	-	-	-	-
	Total		**21 - 6 -8**	**22**	**550**	**600**		**100**	

* BS- Basic science ES- Engineering Science HU- Humanities, languages and Management AE- Ability enhancement course PC- Program core

** Semester End Examination conducted for 100 marks will be reduced to 50 marks

*** Students of all branches will be divided into 2 groups, and each group will take either CIPE or Kannada in 3rd and 4th semester respectively.

**** Bridge course on Mathematics for Lateral entry students.

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S. D. M. College of Engineering & Technology, Dharwad.

Department of Mechanical Engineering

M.Tech. (Engineering Analysis & Design)

(2016 scheme)

Before revision

Scheme of Teaching and Examination

I Semester M. Tech.

Course Code	Course Title	Teaching		Examination				
		L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
				Max. Marks	*Max. Marks	Duration in hours	Max. Marks	Duration in hours
16PEADC100	Applied Mathematics	4-0-0	4	50	100	3	-	-
16PEADC101	Theoretical Stress Analysis	4-0-0	4	50	100	3	-	-
16PEADL131	Design Engineering Lab – I	0-0-3	2	50			50	3
16PEADL132	Seminar	0-0-3	2	50				
16PEADEXXX	Elective – 1	4-0-0	4	50	100	3		
16PEADEXXX	Elective – 2	4-0-0	4	50	100	3		
16PEADEXXX	Elective – 3	4-0-0	4	50	100	3		
		Total	24	350	500		50	

CIE: Continuous Internal Evaluation **SEE**: Semester End Examination

L: Lecture **T**: Tutorials **P**: Practical

***SEE** for theory courses is conducted for 100 marks and reduced to 50 marks.

****** Seminar is to be conducted every week and 2-3 students/week will present a topic from emerging areas in Mechanical Engineering preferably the contents not studied in their regular courses. The seminar shall be evaluated by 3 faculty members having specialization in Mechanical Engineering and allied areas.

Course Code	Elective Courses
16PEADE125	Advanced Fluid Dynamics
16PEADE126	Finite Element Methods
16PEADE127	Advanced Material Technology
16PEADE128	Cryogenics
16PEADE129	Design Optimization
16PEADE130	Design for Manufacture

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II Semester M. Tech.

Course Code	Course Title	Teaching		Examination				
		L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
				Max. Marks	*Max. Marks	Duration in hours	Max. Marks	Duration in hours
16PEADC200	Automobile System Design	4-0-0	4	50	100	3	-	-
16PEADC201	Power Plant Design	4-0-0	4	50	100	3	-	-
16PEADL231	Design Engineering lab -II	0-0-3	2	50			50	3
16PEADL232	Seminar	0-0-3	2	50				
16PEADEXXX	Elective – 1	4-0-0	4	50	100	3		
16PEADEXXX	Elective – 2	4-0-0	4	50	100	3		
16PEADEXXX	Elective – 3	4-0-0	4	50	100	3		
		Total	24	350	500		50	

CIE: Continuous Internal Evaluation **SEE**: Semester End Examination

L: Lecture **T**: Tutorials **P**: Practical

***SEE** for theory courses is conducted for 100 marks and reduced to 50 marks.

****** Seminar is to be conducted every week and 2-3 students/week will present a topic from emerging areas in Mechanical Engineering preferably the contents not studied in their regular courses. The seminar shall be evaluated by 3 faculty members having specialization in Mechanical Engineering and allied areas.

Course Code	Elective Courses
16PEADE225	Dynamics & Mechanism Design
16PEADE226	Computational Fluid Dynamics
16PEADE227	Fracture Mechanics
16PEADE228	Production tooling
16PEADE229	Turbulence & Shear Flows
16PEADE230	Advanced Product Design

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III Semester M. Tech.

Course Code	Course Title	Teaching		Examination				
		L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
				Max. Marks	*Max. Marks	Duration in hours	Max. Marks	Duration in hours
16PEADC300	Experimental Techniques	4-0-0	4	50	100	3	-	-
16PEADEXXX	Elective 1	4-0-0	4	50	100	3	-	-
16PEADL327	Industrial Internship / field work	2 weeks	4	50	-	-	50	2
16PEADL328	Project Phase – 1	-	15	50	-	-		3
Total		**8-0-0**	**27**	**200**	**200**		**50**	

CIE: Continuous Internal Evaluation **SEE**: Semester End Examination
L: Lecture **T**: Tutorials **P**: Practical
***SEE** for theory courses is conducted for 100 marks and reduced to 50 marks.

Course Code	Elective Courses
16PEADE325	Robust Design
16PEADE326	Design of Heat Exchangers

Scheme of Teaching and Examination

IV Semester M. Tech.

Course Code	Course Title	Teaching		Examination				
		L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
				Max. Marks	*Max. Marks	Duration in hours	Max. Marks	Duration in hours
16PEADL425	Project Phase – II	0-0-20	25	100	-	-	100	3
Total			**25**	**100**			**100**	

CIE: Continuous Internal Evaluation **SEE**: Semester End Examination
L: Lecture **T**: Tutorials **P**: Practical
***SEE** for theory courses is conducted for 100 marks and reduced to 50 marks.

HOD-ME

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After revision (2018 scheme)

I Semester

Course Code	Course Title	Teaching		Examination				
				CIE	Theory (SEE)		Practical (SEE)	
		L-T-P (Hrs/Week)	Credits	Max. Marks	*Max. Marks	Duration in hours	Max. Marks	Duration in hours
18PEADC100	Computational Methods in Engineering	4-0-0	4	50	100	3		
18PEADC101	Theoretical Stress Analysis	4-0-0	4	50	100	3		
18PEADEXXX	Elective 1	4-0-0	4	50	100	3		
18PEADEXXX	Elective 2	4-0-0	4	50	100	3		
18PEADEXXX	Elective 3	4-0-0	4	50	100	3		
18PEADL131	Design Engineering Lab – I	0-0-3	2	50			50	3
18PEADL132	**Seminar	0-0-2	1	50				
Total		**20-0-5**	**23**	**350**	**500**		**50**	

CIE: Continuous Internal Evaluation **SEE**: Semester End Examination

L: Lecture **T**: Tutorials **P**: Practical

***** SEE for a theory course is conducted for 100 marks and reduced to 50 marks.

****** Seminar is to be conducted every week and 2-3 students/week will present a topic from emerging areas in Engineering Analysis and Design preferably the contents not studied in their regular courses. The seminar shall be evaluated by 2 faculty members having specialization in Engineering Analysis and Design and allied areas.

Course Code	Elective Courses
18PEADE125	Advanced Fluid Dynamics
18PEADE126	Finite Element Methods
18PEADE127	Advanced Material Technology
18PEADE128	Design of Renewable Energy Systems
18PEADE129	Design Optimization
18PEADE130	Design for Manufacture

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II- Semester

Course code	Course Title	Teaching		Examination				
		L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
				Max. Marks	*Max. Marks	Duration in hours	Max. Marks	Duration in hours
18PEADC200	Automobile System Design	4-0-0	4	50	100	3		
18PEADC201	Computational Fluid Dynamics	4-0-0	4	50	100	3		
18PEADEXXX	Elective4	3-0-2	4	50	100	3		
18PEADEXXX	Elective5	4-0-0	4	50	100	3		
18PEADEXXX	Elective6	3-0-2	4	50	100	3		
18PEADL231	Design Engineering lab -II	0-0-3	2	50			50	3
18PEADL232	** Seminar	0-0-2	1	50				
Total		**18-0-09**	**23**	**350**	**500**		**50**	

Course Code	Elective Courses
18PEADE225	Dynamics & Mechanism Design Simulation
18PEADE226	Power Plant Design
18PEADE227	Fracture Mechanics
18PEADE228	Heating Ventilation & Air Conditioning (HVAC)
18PEADE229	Advanced Theory of Vibrations
18PEADE230	Advanced Product Design

HOD-ME

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After revision (2020 scheme)

I Semester M. Tech.

Course Code	Course Title	Teaching		Examination				
		L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
				Max. Marks	*Max. Marks	Duration in hours	Max. Marks	Duration in hours
20PRMIC100	Research Methodology and IPR	2-0-0	2	50	50	2		
20PMEAC100	Computational Methods in Engineering	4-0-0	4	50	100	3		
20PEADC101	Theoretical Stress Analysis	3-2-0	4	50	100	3		
20PEADC102	Finite Element Methods	4-0-0	4	50	100	3		
20PEADE11X	Elective 1	4-0-0	4	50	100	3		
20PEADL103	Design Engineering Lab 1	0-0-3	2	50			50	3
20PEADL104	Seminar	0-0-2	1	50				
Total		**17-2-5**	**21**	**350**	**450**		**50**	

CIE: Continuous Internal Evaluation **SEE**: Semester End Examination

L: Lecture **T**: Tutorials **P**: Practical

***** SEE for theory courses is conducted for 100 marks and reduced to 50 marks.

Electives

Course Code	Elective 1
20PEADE111	Advanced Fluid Dynamics
20PEADE112	Design of Renewable Energy Systems
20PEADE113	Design for Manufacture and Assembly

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II Semester M. Tech.

Course Code	Course Title	Teaching		Examination				
		L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
				Max. Marks	*Max. Marks	Duration in hours	Max. Marks	Duration in hours
20PEADC201	Advanced Theory of Vibrations	4-0-0	4	50	100	3		
20PEADC202	Computational Fluid Dynamics	3-2-0	4	50	100	3		
20PEADE2XX	Elective 2	3-0-2	4	50	100	3		
20PEADE2XX	Elective 3	4-0-0	4	50	100	3		
20PEADE2XX	Elective 4	3-0-2	4	50	100	3		
20PEADL203	Design Engineering Lab 2	0-0-3	2	50			50	3
20PEADL204	Seminar	0-0-2	1	50				
Total		**17-2-9**	**23**	**350**	**500**		**50**	

Electives

Course Code	Elective 2	Course Code	Elective 3	Course Code	Elective 4
20PEADE211	Dynamics & Mechanism Design simulation	20PEADE221	Automobile System Design	20PEADE231	Heating Ventilation & Air Conditioning (HVAC)
20PEADE212	Fracture Mechanics	20PEADE222	Rapid prototyping & Tooling	20PEADE232	Power Plant Design
20PEADE213	Experimental Stress Analysis	20PEADE223	Computer Control of Manufacturing System	20PEADE233	Modeling & Analysis of Thermal system

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III Semester M. Tech.

Course Code	Course Title	Teaching		Examination				
		L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
				Max. Marks	*Max. Marks	Duration in hours	Max. Marks	Duration in hours
20PEADC301	Experimental Techniques	4-0-0	4	50	100	3		
20PEADE3XX	Elective 5	3-0-0	3	50	100	3		
20PEADE3XX	Elective 6	3-0-0	3	50	100	3		
20PEADL302	Internship in Industry or R&D organization	** Min 4 weeks during vacation after 2nd sem	3	50	--	--	100	3
20PEADL303	*** Project phase 1	0-0-15	9	50			50	3
Total		**13-0-15/10-4weeks-15)**	**22**	**250**	**400/ 300**		**50/150**	

Electives

Course Code	Elective 5	Course Code	Elective 6
20PEADE311	Advanced Composite Materials and Mechanics	20PEADE321	Failure Analysis of Materials
20PEADE312	Mathematical Modeling for Engineering Systems	20PEADE322	Design of Heat Exchangers
20PEADE313	Robust Design	20PEADE323	Scientific Computing

HOD-ME

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After revision (2022 scheme)

III Semester M. Tech.

Course Code	Course Title	Teaching		Examination				
				CIE	Theory (SEE)		Practical (SEE)	
		L-T-P (Hrs/Week)	Credits	Max. Marks	*Max. Marks	Duration in hours	Max. Marks	Duration in hours
22PEADC301	Experimental Techniques	4-0-0	4	50	100	3		
22PEADE3XX	Elective 5	3-0-0	3	50	100	3		
22PEADE3XX	Elective 6	3-0-0	3	50	100	3		
22PEADE3XX	Elective 7	4-0-0	4	50	100	3	-	-
OR								
22PEADL302	Internship in Industry or R&D organization	** Min 4 weeks during vacation after 2nd sem	4	50	-	-	100	3
22PEADL303	*** Project phase 1	0-0-6	6	50	-	-	50	3
Total		**14-0-6/10-4weeks-6)**	**20**	**250**	**400/ 300**		**50/150**	

Electives

Course Code	Elective 5	Course Code	Elective 6	Course Code	Elective 7
22PEADE311	Advanced Composite Materials and Mechanics	22PEADE321	Design of Heat Exchangers	22PEADE331	Robust Design
22PEADE312	Mathematical Modeling for Engineering Systems	22PEADE322	Scientific Computing	22PEADE332	Failure Analysis of Materials
22PEADE313	Surface Engineering	22PEADE323	Industry 4.0 & Artificial intelligence	22PEADE333	Industrial Robotics

HOD-ME

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