

Programme Specifications

B. Tech. Programme



Programme: Mechanical Engineering
Department: Mechanical and Manufacturing
Engineering

Faculty of Engineering & Technology
M. S. Ramaiah University of Applied Sciences

University House, New BEL Road, MSR Nagar, Bangalore – 560 054

www.msruas.ac.in

PROGRAMME SPECIFICATIONS: MECHANICAL ENGINEERING

Faculty	Engineering and Technology (FET)
Department	Mechanical and Manufacturing Engineering
Programme	Mechanical Engineering
Dean of Faculty	Prof. H. K. Narahari
Head of Department	Prof. Arulanantham

1	Title of the Award B.Tech. in Mechanical Engineering
2	Modes of Study Full Time
3	Awarding Institution /Body M.S. Ramaiah University of Applied Sciences
4	Joint Award Not Applicable
5	Teaching Institution Faculty of Engineering and Technology, M.S. Ramaiah University of Applied Sciences
6	Date of Programme Specifications February 2014
7	Date of Programme Approval by the Academic Council of MSRUAS April 2014
8	Next Review Date: March 2018
9	Programme Approving Regulating Body and Date of Approval --
10	Programme Accredited Body and Date of Accreditation --
11	Grade Awarded by the Accreditation Body --
12	Programme Accreditation Validity --
13	Programme Benchmark N/A
14	Rationale for the Programme <p>Mechanical engineering is one of the oldest disciplines of engineering. Designing and manufacturing of mechanical machinery and equipment have been there world over for many centuries. Mechanical Engineering is a foundational discipline, critical to the success of many enterprises. It plays a key role in energy, transportation, development of infrastructure and manufacturing of consumer durables.</p> <p>Presently, mechanical engineers are contributing in research and development pertaining to environmental and bio-medical fields. Mechanical engineers are responsible for selection and processing of eco-friendly materials and processes, design and fabrication of medical devices and prostheses to improve quality of life.</p> <p>The mechanical engineering programme at Faculty of Engineering and Technology at MSRUAS has been developed by the members of the faculty based on their teaching experience and long standing interactions with various universities and industries in India and abroad.</p> <p>The curriculum is outcome based and helps students to develop critical thinking abilities and imbibe relevant practical skills for a smooth transition from academics to real-life work</p>

	<p>environment. Opportunities are provided for the students to do their internship in India or abroad depending on their preferences.</p> <p>The alumni of the faculty hold respected positions in industry and business in India and abroad. The faculty interacts with the industry and business offering engineering and consultancy, product design and development services along with training modules to practicing professionals. The faculty interacts with more than 150 companies in public and private sectors including OEMs spread across India. The above mentioned features of the programme and the faculty members' strong footing in industry and business make the programme unique. The student admitted to the programme in mechanical engineering is given a strong foundation in real-life problem solving which is quite rare with many institutions offering similar programme.</p>
15	<p>Programme Mission</p> <p>The purpose of the programme is creation of innovative problem solvers in multi-disciplinary settings, entrepreneurs and leaders applying the knowledge, understanding, cognitive abilities, practical skills and transferrable skills gained through systematic, flexible and rigorous learning in the chosen academic domain</p>
16	<p>Graduate Attributes</p> <ol style="list-style-type: none"> 1. Ability to apply knowledge of mathematics, science, and Engineering fundamentals to solve complex problems in engineering 2. Ability to analyse engineering problems, interpret data and arrive at meaningful conclusions involving mathematical inferences 3. Ability to design an engineering system, component, or process to meet desired needs considering public health and safety, and the cultural, societal, and environmental considerations 4. Ability to understand and solve complex engineering problems by conducting experimental investigations 5. Ability to apply appropriate tools and techniques and understand utilization of resources appropriately to complex engineering activities 6. Ability to understand the effect of engineering solutions on legal, cultural, social and public health and safety aspects 7. Ability to develop sustainable solutions and understand their effect on society and environment 8. Ability to apply ethical principles to engineering practices and professional responsibilities 9. Ability to work as a member of a team, to plan and to integrate knowledge of various engineering disciplines and to lead teams in multidisciplinary settings 10. Ability to make effective oral presentations and communicate technical ideas to a broad audience using written and oral means 11. Ability to lead and manage multidisciplinary teams by applying engineering and management principles 12. Ability to adapt to the changes and advancements in technology and engage in independent and life-long learning
17	<p>Programme Goal</p> <p>The programme goal is to produce graduates with critical, analytical and problem solving skills, and ability to think independently, to pursue a career in Mechanical Engineering.</p>

18	<p>Programme Objectives</p> <p>The Mechanical Engineering degree programme will impart knowledge of mechanical systems and their sub systems; enhances the understanding of underlying engineering principles that govern the behavior of mechanical systems; teach analytical modeling, simulation and analysis to study the behavior of mechanical systems; provide the skills to design, build and test mechanical systems. It also trains students on personal development and interactive skills with a feel for society.</p> <p>The objectives of the programme are:</p> <ol style="list-style-type: none"> 1. To impart knowledge on mechanical systems and their sub-systems 2. To facilitate the understanding of underlying engineering principles of mechanical systems to explain their construction and working 3. To model, simulate and analyze the behavior of mechanical systems to predict and improve their performance 4. To design and develop prototypes of mechanical systems to meet the specific needs 5. To instrument and test of mechanical systems for validation 6. To train students on commercial software tools to design, model, simulate mechanical systems 7. To train students on manufacture and production of mechanical systems 8. To educate on professional ethics, economics, social sciences and interpersonal skills relevant to professional practice 9. To provide a general perspective on lifelong learning and opportunities for a career in industry, business and commerce
19	<p>Programme Intended Learning Outcomes</p> <p>The intended learning outcomes are listed under four headings:</p> <ol style="list-style-type: none"> 1. Knowledge and Understanding, 2. Cognitive skills 3. Practical skills and 4. Capability / Transferable skills. <p>Knowledge and Understanding</p> <p>After undergoing this programme, a student will be able to-</p> <p>KU1: Identify and describe the various systems of relevance to mechanical engineering</p> <p>KU2: Explain the underlying science and engineering principles that govern the systems/processes relevant to mechanical engineering</p> <p>KU3: Compare and contrast newer technologies over the existing technologies</p> <p>KU4: Collect, classify and interpret information relevant to mechanical engineering</p> <p>Cognitive Skills</p> <p>After undergoing this programme, a student will be able to-</p> <p>CS1: Design Mechanical systems/processes based on the desired function</p> <p>CS2: Model and simulate mechanical systems to analyze the behavior</p> <p>CS3: Modify the existing design/processes to meet newer requirements</p> <p>CS4: Apply science and engineering principles to evaluate performance of mechanical systems and answer “what if” questions</p>

<p>Practical Skills</p> <p>After undergoing this programme, a student will be able to-</p> <p>PS1: Manufacture/Fabricate mechanical components and assemble the system</p> <p>PS2: Instrument a system and test for its performance</p> <p>PS3: Operate and maintain a mechanical system for efficient and safe operations</p> <p>PS4: Program/Control a mechanical system to deliver desired level of performance</p> <p>Capability Skills / Transferrable Skills</p> <p>After undergoing the programme, a student will be able to-</p> <p>TS1: Manage information, develop technical reports and make presentations</p> <p>TS2: Build, Manage and Lead a team to successfully complete a project and communicate across teams and organizations to achieve professional objectives</p> <p>TS3: Work under various constraints to meet project targets</p> <p>TS4: Adopt to the chosen profession by continuously upgrading his/her knowledge and understanding through Life-long Learning philosophy</p>
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20. **Programme Structure**
Semester -1, Physics Cycle

S.No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks	
1	BSC101A	Engineering Mathematics-1	3	2	0	4	100	
2	BSC102B	Engineering Physics	3	2	0	4	100	
3	ESC101A	Elements of Mechanical Engineering	3	0	0	3	100	
4	ESC102A	Elements of Electronics Engineering	3	2	0	4	100	
5	ESC103A	Engineering Drawing	1	0	4	3	100	
6	BSC103B	Engineering Physics Laboratory	0	0	2	1	50	
7	ESC104A	Basic Workshop Practice	0	0	2	1	50	
8	ESC105A	Basic Electronics Laboratory	0	0	2	1	50	
9	HSC101B	Sociology and Elements of Indian History	2	0	0	2	50	
10	MCC101B	Technical Communication and Soft Skills	2	0	0	2	50	
Total			17	6	10	25	750	
Total number of contact hours per week			33 hours					
Number of credits can be registered			Minimum	20	Maximum	25		

Semester -2

S.No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks	
1	BSC104A	Engineering Mathematics-2	3	2	0	4	100	
2	BSC105B	Engineering Chemistry	4	0	0	4	100	
3	ESC106A	Construction Materials and Engineering Mechanics	3	2	0	4	100	
4	ESC107A	Elements of Electrical Engineering	3	2	0	4	100	
5	ESC108A	Elements of Computer Science and Engineering	3	2	0	4	100	
6	ESC109A	Computer Programming Laboratory	0	0	2	1	50	
7	BSC106B	Engineering Chemistry Laboratory	0	0	2	1	50	
8	ESC110A	Basic Electrical Laboratory	0	0	2	1	50	
9	HSC102B	Business Communication and Presentation Skill	2	0	0	2	50	
10	MCC102A	Environmental Studies	2	0	0	2	50	
Total			20	8	6	27	750	
Total number of contact hours per week			34 hours					
Number of credits can be registered			Minimum	22	Maximum	27		

Semester -1, Chemistry Cycle

S.No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	BSC101A	Engineering Mathematics-1	3	2	0	4	100
2	BSC105B	Engineering Chemistry	4	0	0	4	100
3	ESC106A	Construction Materials and Engineering Mechanics	3	2	0	4	100
4	ESC107A	Elements of Electrical Engineering	3	2	0	4	100
5	ESC108A	Elements of Computer Science and Engineering	3	2	0	4	100
6	ESC109A	Computer Programming Laboratory	0	0	2	1	50
7	BSC106B	Engineering Chemistry Laboratory	0	0	2	1	50
8	ESC110A	Basic Electrical Laboratory	0	0	2	1	50
9	HSC102B	Business Communication and Presentation Skill	2	0	0	2	50
10	MCC102A	Environmental Studies	2	0	0	2	50
Total			20	8	6	27	750
Total number of contact hours per week			34 hours				
Number of credits can be registered			Minimum	22	Maximum	27	

Semester -2

S.No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	BSC104A	Engineering Mathematics-2	3	2	0	4	100
2	BSC102B	Engineering Physics	3	2	0	4	100
3	ESC101A	Elements of Mechanical Engineering	3	0	0	3	100
4	ESC102A	Elements of Electronics Engineering	3	2	0	4	100
5	ESC103A	Engineering Drawing	1	0	4	3	100
6	BSC103B	Engineering Physics Laboratory	0	0	2	1	50
7	ESC104A	Basic Workshop Practice	0	0	2	1	50
8	ESC105A	Basic Electronics Laboratory	0	0	2	1	50
9	HSC101B	Sociology and Elements of Indian History	2	0	0	2	50
10	MCC101B	Technical Communication and Soft Skills	2	0	0	2	50
Total			17	6	10	25	750
Total number of contact hours per week			33 hours				
Number of credits can be registered			Minimum	20	Maximum	25	

Semester-3

S.No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	BSC207A	Engineering Mathematics-3	3	2	0	4	100
2	ESC201A	Materials Science	3	0	0	3	100
3	MEC201A	Strength of Materials	3	2	0	4	100
4	MEC202A	Engineering Thermodynamics	3	0	0	3	100
5	MEC203A	Fluid Mechanics	3	2	0	4	100
6	MEC204A	Strength of Materials Laboratory	0	0	2	1	50
7	MEC205A	Fluid Mechanics Laboratory	0	0	2	1	50
8	MEC206A	Machine Drawing	0	0	4	2	100
9	ESC202A	Materials Science Laboratory	0	0	2	1	50
10	MCC201B	Human Rights and Legislative Procedures	2	0	0	2	50
Total			17	6	10	25	800
Total number of contact hours per week			33 hours				
Number of credits can be registered			Minimum	20	Maximum	25	

Semester-4

S.No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	BSC208A	Engineering Mathematics-4	3	2	0	4	100
2	MEC207A	Turbomachinery	3	2	0	4	100
3	MEC208A	Kinematics of Machinery	3	0	0	3	100
4	MEC209A	Manufacturing Processes-1	3	0	0	3	100
5	MEC210A	Mechanical Measurements and Metrology	4	0	0	4	100
6	HSC201A	Law for Engineers	2	0	0	2	50
7	MEC211A	Measurements and Metrology Laboratory	0	0	2	1	50
8	MEC212A	Turbomachinery Laboratory	0	0	2	1	50
9	MEC213A	Foundry and Forging Lab	0	0	2	1	50
10	MEC214A	Mechanisms and Kinematics Simulation Laboratory	0	0	2	1	50
Total			18	4	8	24	750
Total number of contact hours per week			30 hours				
Number of credits can be registered			Minimum	19	Maximum	24	

Semester- 5

S.No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks	
1	MEC301A	Applied Thermodynamics-1	2	2	0	3	100	
2	MEC302A	Dynamics of Machinery	3	2	0	4	100	
3	MEC303A	Control Systems Engineering	4	0	0	4	100	
4	MEC304A	Design of Machine Elements-1	3	2	0	4	100	
5	HSC301A	Economics for Engineers	2	0	0	2	50	
6	MEC305A	Manufacturing Processes-2	3	0	0	3	100	
7	MEC306A	Machine Shop -1	0	0	2	1	50	
8	MEC307A	Dynamics and Simulation Laboratory	0	0	2	1	50	
9	MEC308A	Control Systems Laboratory	0	0	2	1	50	
10	MEC309A	Applied Thermodynamics Lab-1	0	0	2	1	50	
Total			17	6	08	24	750	
Total number of contact hours per week			31 hours					
Number of credits can be registered			Minimum	19	Maximum	24		

Semester-6

S.No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks	
1	MEC310A	Applied Thermodynamics – 2	2	2	0	3	100	
2	MEC311A	Design of Machine Elements-2	3	2	0	4	100	
3	MEC312A	Industrial Engineering	4	0	0	4	100	
4	MEEEXXA	Professional Core Elective-1	4	0	0	4	100	
5	MEEEXXA	Professional Core Elective-2	4	0	0	4	100	
6	MEC313A	Applied Thermodynamics Lab-2	0	0	2	1	50	
7	MEC314A	Machine Shop -2	0	0	2	1	50	
8	MECP31A	Project Work – 1/Internship	0	0	16	8	100	
Total			17	4	20	29	700	
Total number of contact hours per week			41 hours					
Number of credits can be registered			Minimum	24	Maximum	29		

Note: Internship can be in any Industry, Business, University or Research organization in India or abroad.

Semester-7

S.No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	MEC401A	Heat and Mass Transfer	3	2	0	4	100
2	MEC402A	Finite Element Methods	3	2	0	4	100
3	MEC403A	Industrial Management	3	0	0	3	100
4	MEEEXXA	Professional Core Elective-3	4	0	0	4	100
5	OEC401A	Open Elective-1	3	0	0	3	100
6	OEC402A	Open Elective-2	3	0	0	3	100
7	MEC404A	CAE Lab	0	0	2	1	50
8	MEC405A	Heat Transfer Laboratory	0	0	2	1	50
9	MEC406A	Seminar	0	0	2	1	50
Total			19	4	06	24	750
Total number of contact hours per week			29 hours				
Number of credits can be registered			Minimum	19	Maximum	24	

Semester-8

S.No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	MEEEXXA	Professional Core Elective-4	4	0	0	4	100
2	OEC403A	Open Elective-3	3	0	0	3	100
3	OEC404A	Open Elective-4	3	0	0	3	100
4	MECP42A	Project Work -2	0	0	24	12	100
Total			10	0	24	22	400
Total number of contact hours per week			34 hours				
Number of credits can be registered			Minimum	17	Maximum	22	

Professional Core Electives:**1. Semester 6 group**

1. MEE401A: Advanced Mechanics of Materials
2. MEE402A: Noise, Vibration and Harshness
3. MEE403A: Automation in Manufacturing
4. MEE404A: Design for 'X'
5. MEE405A: Modern Automotive Systems
6. MEE406A: Aircraft Systems
7. MEE407A: Supply Chain Management
8. MEE408A: Quality Management and Six Sigma

2. Semester 7 group

1. MEE409A: Fatigue and Fracture Mechanics
2. MEE410A: Surface Engineering
3. MEE411A: Operations Research
4. MEE412A: Automotive Powertrain
5. MEE413A: Powerplant Engineering

	<p>3. Semester 8 group</p> <ol style="list-style-type: none"> 1. MEE414A: Robotics 2. MEE415A: Manufacturing System Simulation 3. MEE416A: Design of Experiments 4. MEE417A: Computational Fluid Dynamics 5. MEE418A: Renewable and Direct Energy Conversion Systems <p>Open Electives:</p> <p>A number of electives from faculty of engineering, management and commerce, art and design, hospitality management and catering technology, pharmacy, dental sciences will be announced one semester prior to the scheduled semester.</p>
21	<p>Course Delivery</p> <p>As per the Time Table</p>
22	<p>Teaching and Learning Methods</p> <ol style="list-style-type: none"> 1. Face to Face Lectures using Audio-Visuals 2. Workshops, Group Discussions, Debates, Presentations 3. Demonstrations 4. Guest Lectures 5. Laboratory work/Field work/Workshop 6. Industry Visit 7. Seminars 8. Group Exercises 9. Project Work 10. Project Exhibitions 11. Technical Festivals
23	<p>Assessment and Grading</p> <ol style="list-style-type: none"> 1. Every course will be assessed for a weight of 100 2. There are two components-Component-1 and Component-2 3. Component-1 carries a weight of 50% and Component -2 carries a weight of 50% 4. Component -1 (CE) is subdivided into Tests and Assignments, tests carry 25% weight and assignment carry 25% weight. 5. Component -2 is a written examination (SEE) carries 50% weight 6. Laboratory Examination will have two components: <ul style="list-style-type: none"> Component -1(CE): Conduction of Laboratory Exercises and Submission of Report: 50% weight Component -2: SEE (Semester End Laboratory Examination): 50% weight 7. A minimum of overall 40% is required for a pass with 40% in each of the Components 8. The marks distribution for each course is given in the programme structure- section 20 9. Other flexibilities (exceptions) are as per the Academic Regulations of B. Tech. Programme.
24	<p>Attendance</p> <p>A minimum of 85% attendance is compulsory to appear for semester end examinations. Condoning of attendance shortage is as per the Academic Regulations of B. Tech.</p>

	Programme.
25	Award of Class As per the Academic Regulations of B. Tech. Programme
26	Student Support for Learning <ol style="list-style-type: none">1. Course Notes2. Reference Books in the Library3. Magazines and Journals4. Internet Facility5. Computing Facility6. Laboratory Facility7. Workshop Facility8. Staff Support9. Lounges for Discussions10. Any other support that enhances their learning
27	Quality Control Measures <ol style="list-style-type: none">1. Review of Course Notes2. Review of Question Papers and Assignment Questions3. Student Feedback4. Moderation of Assessed Work5. Opportunities for students to see their assessed work6. Review by external examiners and external examiners reports7. Staff Student Consultative Committee meetings8. Student exit feedback9. Subject Assessment Board(SAB)10. Programme Assessment Board(PAB)

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Curriculum Map

Course Code						Intended Learning Outcomes											
						Knowledge and Understanding				Cognitive (Thinking) Skills (Critical, Analytical,				Practical skills			
HSC	BSC	ESC	MEC	OEC	MCC	KU1	KU2	KU3	KU4	CS1	CS2	CS3	CS4	PS1	PS2	PS3	PS4
a	b	c	d	e	f												
101B	101A	101A	201A	401A	101B	cd	cd	cd	cd	d	d	d					
102B	102B	102A	202A	402A	102A	cd	cd	cd	cd			d	d				
201A	103B	103A	203A	403A	201B	d	d	d	d	d	d	d	d		b	d	d
301A	104A	104A	204A	404A										c	d	d	d
	105B	105A	205A			b	b	b	b						cd	d	d
	106B	106A	206A			cd	cd	c	c		d	d		d			b
	207A	107A	207A			cd	cd	cd	cd	d	d	d	d				
	208A	108A	208A			d	d	cd	cd	d	d	d	d				
		109A	209A			d	d	d	d				d				c
		110A	210A			d	d	d	d	d	d	d	d		c		
		201A	211A				c		c						d	d	d
		202A	212A												d	d	d
			213A											d		d	d
			214A												d	d	d
			301A			d	d	d	d	d	d	d	d				
			302A			d	d	d	d	d	d	d	d				
			303A			d	d	d	d	d	d	d	d				
			304A			d	d	d	d	d		d					
			305A			d	d	d	d				d				
			306A											d		d	d
			307A												d	d	d
			308A												d	d	d
			309A												d	d	d
			310A			d	d	d	d	d	d	d	d				
			311A			d	d	d	d	d	d	d	d				
			312A					d	d			d	d				
			313A												d	d	d
			314A											d		d	d
			401A			d	d	d	d	d	d	d	d				
			402A				d	d	d	d	d	d	d				
			403A					d	d			d	d				
			404A			d	d				d	d					
			405A												d	d	d
			406A														
			MEE1A*														
			MEE2A*														
			MEE3A*														
			MEE4A*														
			P31A			d	d	d	d	d	d	d	d	d	d	d	d
			P42A			d	d	d	d	d	d	d	d	d	d	d	d
10	26	30	118	16	06	Total 206 credits											

*Depends on elective Course chosen

29 **Capability / Transferable Skills Map**

Course						Skills									
HSC	BSC	ESC	MEC	OEC	MCC	GK	SL	WC	OC	P	B	IM	PM	L	AO
a	b	c	d	e	f										
101B	101A	101A	201A	401A	101B	abcdef	abcdef	abcdef	f	f	af	abcdef	abcdef	f	a
102B	102B	102A	202A	402A	102A	abcdef	abcdef	abcdef	abcdef	a	a	abcdef	abcdef	af	af
201A	103B	103A	203A	403A	201B	abcdef	abcdef	abcdef	b		af	abcdef	abcdef		a
301A	104A	104A	204A	404A		abcde	abcde	abcde	c		a	abcde	abcde		a
	105B	105A	205A			bcd	bcd	bcd	cd			bcd	bcd		
	106B	106A	206A			bcd	bcd	bcd	b			bcd	bcd		
	207A	107A	207A			bcd	bcd	bcd				bcd	bcd		
	208A	108A	208A			bcd	bcd	bcd	c			bcd	bcd		
		109A	209A			cd	cd	cd	c			cd	cd		
		110A	210A			cd	cd	cd	c			cd	cd		
		201A	211A			cd	cd	cd	d			cd	cd		
		202A	212A			cd	cd	cd	cd			cd	cd		
			213A			d	d	d	d			d	d		
			214A			d	d	d	d			d	d		
			301A			d	d	d				d	d		
			302A			d	d	d				d	d		
			303A			d	d	d				d	d		
			304A			d	d	d				d	d		
			305A			d	d	d				d	d		
			306A			d	d	d	d			d	d		
			307A			d	d	d	d			d	d		
			308A			d	d	d	d			d	d		
			309A			d	d	d	d			d	d		
			310A			d	d	d				d	d		
			311A			d	d	d				d	d		
			312A			d	d	d				d	d		
			313A			d	d	d	d			d	d		
			314A			d	d	d	d			d	d		
			401A			d	d	d				d	d		
			402A			d	d	d				d	d		
			403A			d	d	d				d	d		
			404A			d	d	d	d			d	d		
			405A			d	d	d	d			d	d		
			406A			d	d	d	d	d	d	d	d	d	d
			MEE1A			d	d	d				d	d		
			MEE2A			d	d	d				d	d		
			MEE3A			d	d	d				d	d		
			MEE4A			d	d	d				d	d		
			P31A			d	d	d	d	d	d	d	d	d	d
			P42A			d	d	d	d	d	d	d	d	d	d

GK: Group Work, SL: Self Learning, WC: Written Communication, OC: Oral Communication, P: Presentation, B: Behavioral, IM: Information Management, PM: Personal Management, L: Leadership, AO: Any Other

30	Co-curricular Activities Students are encouraged to take part in co-curricular activities like seminars, conferences, symposia, paper writing, attending industry exhibitions, project competitions and related activities for enhancing their knowledge and networking.
31	Cultural and Literary Activities Annual cultural festivals are held to showcase the creative talents in students. They are involved in planning and organizing the activities.
32	Sports and Athletics Students are encouraged to take part in sports and athletic events regularly. Annual sports meet will be held to demonstrate sportsmanship and competitive spirit.

