

Programme Specifications

B. Tech. Programme



Programme: Electrical & Electronic Engineering
Department: Electrical 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: ELECTRICAL AND ELECTRONIC ENGINEERING

Faculty	Engineering and Technology (FET)
Department	Electrical Engineering
Programme	Electrical and Electronic Engineering
Dean of Faculty	Prof. M Arulanantham
Head of Department	Prof. K. Manickavasagam

1	Title of The Award B. Tech. in Electrical and Electronic 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 2018
7	Date of Programme Approval by the Academic Council of MSRUAS May 2018
8	Next Review Date: May 2022
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 Electrical and Electronics Engineering is one of the most sought after disciplines of engineering. Electrical engineering plays a vital role in problems associated with systems such as electric power generation, transmission, distribution and utilization. Designing, manufacturing and testing of electrical machinery and equipment have been there world over for many decades. Electrical engineering is a foundational discipline, critical to the success of many human enterprises. Electrical engineers are critical to power sector, design and development of energy systems and communication systems. Indeed, virtually every product or service in modern life has probably been

	<p>touched in some way by an electrical and electronics engineer. Electrical and Electronic engineers design, analyse, evaluate, develop, test and manufacture electrical products to meet the requirements of Power sector, Industry and society at large.</p> <p>The electrical 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 environment. Opportunities are provided for the students to do their internship in India or abroad depending on their preferences.</p> <p>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 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 electrical engineering is given a strong foundation in real-life problem solving which is quite rare with many institutions offering similar programme.</p> <p>The Faculty of Engineering and Technology at MSRUAS would like to offer electrical and electronic engineering programme to produce imaginative, creative and innovative electrical and electronic engineers.</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

	<ol style="list-style-type: none">4. Ability to understand and solve complex engineering problems by conducting experimental investigations5. Ability to apply appropriate tools and techniques and understand utilization of resources appropriately to complex engineering activities6. Ability to understand the effect of engineering solutions on legal, cultural, social and public health and safety aspects7. Ability to develop sustainable solutions and understand their effect on society and environment8. Ability to apply ethical principles to engineering practices and professional responsibilities9. 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 settings10. Ability to make effective oral presentations and communicate technical ideas to a broad audience using written and oral means11. Ability to lead and manage multidisciplinary teams by applying engineering and management principles12. 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 Electrical and Electronic Engineering.</p>
18	<p>Programme Objectives</p> <p>The programme will impart knowledge of electrical and electronic systems and their sub systems, enhances the understanding of underlying engineering principles that govern the behavior of electrical and electronic systems, teach analytical modelling, simulation and analysis to study the behavior of electrical and electronic systems, provide the skills to design, build and test electrical and electronic systems.</p>

	<p>The objectives of the programme are:</p> <ol style="list-style-type: none"> 1. To impart knowledge on electrical and electronic systems and their subsystems 2. To enhance the understanding of the underlying engineering principles of electrical and electronic systems 3. To model, simulate and analyze the behavior of electrical and electronic systems to predict and improve their performance 4. To design and build models of electrical and electronic systems to meet the specific needs 5. To impart training on instrumentation and testing of electrical and electronic systems 6. To train on industry standard simulation tools for simulation and analysis of electrical and electronic systems 7. To build and test electrical and electronic systems 8. To impart training on professional ethics, history, economics, social sciences and interactive skills relevant to professional practice 9. To provide a general perspective 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 electrical and electronic systems</p> <p>KU2: Explain the underlying engineering principles that govern the electrical and electronic systems</p> <p>KU3: Compare and contrast newer technologies over the existing technologies</p> <p>KU4: Able to collect, classify information and interpret information</p>

Cognitive Skills

After undergoing this programme, a student will be able to

CS1: Design electrical and electronic systems and subsystems

CS2: Model, simulate and analyse the electrical and electronic systems

CS3: Able to modify the existing design to meet newer requirements

CS4: Apply engineering principles to evaluate performance of electrical and electronic systems and answer what if questions

Practical Skills

After undergoing this programme, a student will be able to

PS1: Analyse complex electrical component and assemble a complex electrical and electronic system

PS2: Instrument a electrical and electronic system and test its performance

PS3: Critically assess the operation or design of a simple power system

PS4: Design a high voltage insulation system for the test

Capability/Transferrable Skills

After undergoing the programme, a student will be able to-

TS1: Manage information, develop technical reports and make presentations

TS2: Build, Manage and Lead a team to successfully complete a project and communicate across teams and organizations to achieve professional objectives

TS3: Work under various constraints to meet project targets

TS4: Adopt to the chosen profession by continuously upgrading his/her knowledge and understanding through Life-long Learning philosophy

20	B. Tech. Programme Structure							
	Physics Cycle:							
	SEMESTER 1							
	Sl.No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
	1	18BSC101A	Engineering Mathematics - 1	3	2	0	4	100
	2	18BSC102A	Engineering Physics	3	2	0	4	100
	3	18ESC101A	Elements of Mechanical Engineering	3	0	0	3	100
	4	18ESC102A	Elements of Electronics Engineering	3	2	0	4	100
	5	18ESC103A	Engineering Drawing	1	0	4	3	100
	6	18BSL103A	Engineering Physics Laboratory	0	0	2	1	50
	7	18ESL104A	Basic Workshop Practice	0	0	2	1	50
	8	18ESL105A	Basic Electronics Laboratory	0	0	2	1	50
	9	18HST101A	Elements of Social Sciences	2	0	0	2	50
	Total			15	6	10	23	700
	Total number of contact hours per week			31 hours				
	Number of credits can be registered			Minimum	18	Maximum	23	
	SEMESTER 2							
	Sl.No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
	1	18BSC104A	Engineering Mathematics - 2	3	2	0	4	100
	2	18BSC105A	Engineering Chemistry	3	0	0	3	100
3	18ESC106A	Engineering Mechanics and Construction Materials	3	2	0	4	100	
4	18ESC107A	Elements of Electrical Engineering	3	2	0	4	100	
5	18ESC108A	Elements of Computer Science and Engineering	3	2	0	4	100	
6	18ESL109A	Computer Programming Laboratory	0	0	2	1	50	
7	18BSL106A	Engineering Chemistry Laboratory	0	0	2	1	50	
8	18ESL110A	Basic Electrical Engineering Laboratory	0	0	2	1	50	
9	18HST102A	Professional Communication	2	0	0	2	50	
Total			17	8	6	24	700	
Total number of contact hours per week			31 hours					
Number of credits can be registered			Minimum	19	Maximum	24		

Chemistry Cycle:							
SEMESTER 1							
Sl.No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	18BSC104A	Engineering Mathematics - 2	3	2	0	4	100
2	18BSC102A	Engineering Physics	3	2	0	4	100
3	18ESC101A	Elements of Mechanical Engineering	3	0	0	3	100
4	18ESC102A	Elements of Electronics Engineering	3	2	0	4	100
5	18ESC103A	Engineering Drawing	1	0	4	3	100
6	18BSL103A	Engineering Physics Laboratory	0	0	2	1	50
7	18ESL104A	Basic Workshop Practice	0	0	2	1	50
8	18ESL105A	Basic Electronics Laboratory	0	0	2	1	50
9	18HST101A	Elements of Social Sciences	2	0	0	2	50
Total			15	6	10	23	700
Total number of contact hours per week			31 hours				
Number of credits can be registered			Minimum	18	Maximum	23	
SEMESTER 2							
Sl.No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	18BSC101A	Engineering Mathematics - 1	3	2	0	4	100
2	18BSC105A	Engineering Chemistry	3	0	0	3	100
3	18ESC106A	Engineering Mechanics and Construction Materials	3	2	0	4	100
4	18ESC107A	Elements of Electrical Engineering	3	2	0	4	100
5	18ESC108A	Elements of Computer Science and Engineering	3	2	0	4	100
6	18ESL109A	Computer Programming Laboratory	0	0	2	1	50
7	18BSL106A	Engineering Chemistry Laboratory	0	0	2	1	50
8	18ESL110A	Basic Electrical Engineering Laboratory	0	0	2	1	50
9	18HST102A	Professional Communication	2	0	0	2	50
Total			17	8	6	24	700
Total number of contact hours per week			31 hours				
Number of credits can be registered			Minimum	19	Maximum	24	

SEMESTER 3

Sl.No.	Code	CourseTitle	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	18BSC207A	Engineering Mathematics - 3	3	2	0	4	100
2	18ECC201A	Signals and Systems	3	2	0	4	100
3	18ECC202A	Electronic Circuits	3	2	0	4	100
4	18EEC201A	Network Analysis	3	2	0	4	100
5	18EEC202A	Measurement and Instrumentation	3	0	0	3	100
6	18EEC203A	Electrical Machines - 1	3	0	0	3	100
7	18EEL204A	Electrical Machines Laboratory- 1	0	0	2	1	50
8	18EEL205A	Electrical Circuits & Measurements Laboratory	0	0	2	1	50
9	18CEN201A	Environmental Studies	2	0	0	2	50
Total			20	8	4	26	750
Total number of contact hours per week			32 hours				
Number of credits can be registered			Minimum	21	Maximum	26	

SEMESTER 4							
Sl.No.	Code	CourseTitle	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	18BSC208A	Engineering Mathematics - 4	3	2	0	4	100
2	18ECC208A	Digital Logic Circuits	3	2	0	4	100
3	18ECC209A	Electromagnetic Theory	3	2	0	4	100
4	18ECC210A	Embedded processor and Controllers	4	0	0	4	100
5	18EEC206A	Electrical Machines - 2	3	2	0	4	100
6	18EEC207A	Linear Integrated Circuits	3	0	0	3	100
7	18ECL213A	Embedded processor and Controllers Laboratory	0	0	2	1	50
8	18ECL212A	Digital Electronics Laboratory	0	0	2	1	50
9	18HST201A	Constitution, Human Rights and Law	2	0	0	2	50
Total			21	8	4	27	750
Total number of contact hours per week			33hours				
Number of credits can be registered			Minimum	22	Maximum	27	

SEMESTER 5							
Sl.No.	Code	CourseTitle	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	18EEC301A	Transmission and Distribution	3	0	0	3	100
2	18ECC302A	Digital Signal Processing	3	2	0	4	100
3	18EEC302A	PLC and SCADA	3	2	0	4	100
4	18EEC303A	Electrical Power Generation	3	0	0	3	100
5	18EEC304A	Control Systems	3	2	0	4	100
6	18EEC305A	Electrical Machine Design	3	0	0	3	100
7	18EEC306A	Estimation and Costing of Electrical Installations	3	0	0	3	100
8	18EEL307A	Electrical Machines - 2 Laboratory	0	0	2	1	50
9	18EEL308A	Control System Laboratory	0	0	2	1	50
Total			21	6	4	26	800
Total number of contact hours per week			31 hours				
Number of credits can be registered			Minimum	21	Maximum	26	

SEMESTER 6							
Sl.No.	Code	CourseTitle	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	18EEEC309A	Design and Computer Aided Drawing of Electrical Machine	3	2	0	4	100
2	18EEEC310A	Switchgear and Protection	3	0	0	3	100
3	18EEEC311A	Power Electronics and Drives	3	2	0	4	100
4	18EEEC312A	Power System Analysis	3	2	0	4	100
5	18EEEC313A	Electromagnetic Analysis and Simulation	3	2	0	4	100
6	18EEEC314A	High Voltage Engineering	3	0	0	3	100
7	18EEL315A	Power Electronics & Drives Laboratory	0	0	2	1	50
8	18EEL316A	Power Systems Simulation Laboratory	0	0	2	1	50
9	18EEL317A	High Voltage and Relay Laboratory	0	0	2	1	50
Total			18	8	6	21	650
Total number of contact hours per week			32 hours				
Number of credits can be registered			Minimum	19	Maximum	25	

SEMESTER 7

Sl.No.	Code	CourseTitle	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	18EEE41XA	Professional Core Elective - 1	4	0	0	4	100
2	18EEE42XA	Professional Core Elective - 2	4	0	0	4	100
3	18EEE43XA	Professional Core Elective - 3	4	0	0	4	100
4	18OEE41XA	Open Elective - 1	3	0	0	3	100
5	18OEE42XA	Open Elective - 2	3	0	0	3	100
6	18EET41A 18EET42A	I] Project Work - 1 II] Internship (Choose one)	0	0	16	8	100
7	18EEC401A	Seminar	0	0	2	1	50
Total			18	0	18	27	650
Total number of contact hours per week			36 hours				
Number of credits can be registered			Minimum	22	Maximum	27	

SEMESTER 8

Sl.No.	Code	CourseTitle	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	18EEE44XA	Professional Core Elective - 4	4	0	0	4	100
2	18OEE43XA	Open Elective - 3	3	0	0	3	100
3	18OEE44XA	Open Elective - 4	3	0	0	3	100
4	18EEP43A	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	

Note: Totally student needs to select two professional core elective courses during 8th Semester and one course from PCE-3 and PCE-4 Group must be selected.

Open Electives:

A number of electives from faculty of engineering, management and commerce, art and design, hospitality management and catering technology, pharmacy, dental sciences as mentioned in university website. Students can choose the open electives on their own choice.

Professional Core Elective Courses:				
Group	VII Sem			VIII Sem
	PCE-1 Course Name	PCE-2 Course Name	PCE-3 Course Name	PCE-4 Course Name
Power Electronics	18EEE411A Power Converter Control Techniques	18EEE421A Industrial Drives and Applications	18EEE431A Magnetics and Soft - Switching in Power Electronics	18EEE441A Modelling and Control of Power Electronics System
Power Systems	18EEE412A Power Plant Engineering	18EEE422A Power System Operation and Control	18EEE432A Power Quality and Compensation Techniques	18EEE442A Artificial Intelligence Applications to Power System
Electronic Communication	18ECE319A Fundamentals of Analog Communication	18ECE414A Image Processing	18ECE424A DSP Architecture	18ECE445A Multimedia Processing
Control Systems	18EEE413A Advanced Control System	18EEE423A Introduction to Algorithms	18CSE422A Computational Intelligence	18EEE443A Embedded Systems
Common Group	18BSE401A Probability and Statistics	18CSE421A Data Sciences Foundation	18CSE431A Data Sciences Algorithms and Applications	18CSE441A Data Analytics

Note: Totally student needs to select two professional core elective courses during 7th Semester and one course from PCE-1 and PCE-2 Group must be selected.

21	Programme Delivery As per the time table
22	Teaching and Learning Methods <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 Term 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 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 compulsory to sit for semester end examinations. Any condoning is as per the Academic Regulations of B.Tech. Programme.</p>
25	<p>Award of Class</p> <p>As per the Academic Regulations of B.Tech. Programme.</p>
26	<p>Student support for Learning</p> <ol style="list-style-type: none"> 1. Course Notes 2. Reference Books in the Library 3. Magazines and Journals 4. Internet Facility 5. Computing Facility 6. Laboratory Facility 7. Workshop facility 8. Staff support 9. Lounges for Discussions 10. Any other support that enhances their learning
27	<p>Quality Control Measures</p> <ol style="list-style-type: none"> 1. Review of Course Notes 2. Review of Question Papers and Assignment Questions 3. Student Feedback 4. Moderation of assessed work 5. Opportunities for students to see their assessed work 6. Review by external examiners and external examiners reports 7. Staff Student Consultative Committee meetings 8. Student exit feedback 9. 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, Problem Solving)				Practical skills			
HST	BSC	ESC	EEC	OEE	CEN	KU1	KU2	KU3	KU4	CS1	CS2	CS3	CS4	PS1	PS2	PS3	PS4
a	b	c	d	e	f												
101A	101A	101A	ECC201A	41XA	201A	d	bd	bcd	bcd	d	d	bcd	bd	d			
102A	102A	102A	ECC202A	42XA		bcd	bcd	bc	bcd	bcd	bcd	bc	bcd	d			
201A	103A	103A	201A	43XA		d	d	bd	bcd	d	d	bd	d				
	104A	104A	202A	44XA		d	d		d	d	d		bd	d	d		
	105A	105A	203A			d	bd	bd	bd	d	d	bd	bd	c	cd	d	
	106A	106A	204A			c	c	c	d	c	c	c	c	d	d	d	
	207A	107A	ECC208A			cd	bcd	cd	cd	cd	cd	cd	bcd	d			
	208A	108A	ECC209A			b	bd		cd	b	b		bd	b			
		109A	ECC210A				d		d				d			d	
		110A	ECC212A			d	c			d	d		c	c	d		
			ECC213A			d				d	d					d	
			205A1			d	d			d	d			d	d		
			206A4			d	d		d	d	d		d	d			
			207A3			d			d	d	d						
			301A3			d	d	d	d	d	d	d	d				
			ECC302A					d	d			d					
			302A					d	d			d	d	d	d		
			303A			d	d	d	d	d	d	d	d				
			304A					d	d		d						
			305A			d	d	d	d	d	d	d	d	d		d	
			306A			d	d	d	d			d	d				
			307A			d	d			d	d			d	d		
			308A											d	d	d	d
			309A				d	d	d			d	d	d		d	
			310A			d	d		d	d	d		d				
			311A			d	d	d	d	d	d	d	d	d			
			312A			d	d	d	d	d	d	d	d				
			313A					d	d	d	d	d	d	d	d	d	d
			314A			d	d	d	d	d	d	d	d				
			315A			d	d			d	d		d	d	d		
			316A			d			d	d							
			317A			d			d	d							
			EEE41XA**														
			EEE42XA**														
			EEE43XA**														
			EEE44XA**														
			EEPI41A			d	d	d	d	d	d	d	d	d	d	d	d
			EEPI42A														
			ECC401A														
			EEP43A1			d	d	d	d	d	d	d	d	d	d	d	d
06	25	26	129	12	02	Total 200 credits											
EEE ** Depends on elective course chosen																	

29	Capability Map															
	Course Code						Skills									
	HST	BSC	ESC	EEC	OEE	CEN	GK	SL	WC	OC	P	B	IM	EM	L	AO
	a	b	c	d	e	f										
	101A	101A	101A	ECC201A*	41XA	201A	abcde	abcdef	abcdef	f	f	af	abcdef	abcdef	f	a
	102A	102A	102A	ECC202A*	42XA		abcdef	abcdef	abcdef	abcdef	a	a	abcdef	abcdef	af	af
	201A	103A	103A	201A	43XA		abcdef	abcdef	abcdef	b		af	abcdef	abcdef		a
		104A	104A	202A	44XA		abcde	abcde	abcde	c		a	abcde	abcde		a
		105A	105A	203A			bcd	bcd	bcd	cd			bcd	bcd		
		106A	106A	204A			bcd	bcd	bcd	c			bcd	bcd		
		207A	107A	ECC208A*			bcd	bcd	bcd	c			bcd	bcd		
		208A	108A	ECC209A*			bcd	bcd	bcd	c			bcd	bcd		
			109A	ECC210A*			cd	cd	cd	c			cd	cd		
			110A	ECC212A*			cd	cd	cd	c			cd	cd		
				ECC213A*			cd	cd	cd	cd			cd	cd		
				205A			d	d	d				d	d		
				206A			d	d	d				d	d		
				207A			d	d	d				d	d		
				301A			d	d	d				d	d		
				ECC302A*			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		
				307A			d	d	d				d	d		
				308A			d	d	d				d	d		
				309A			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			
			314A			d	d	d				d	d			
			315A			d	d	d				d	d			
			316A			d	d	d				d	d			
			317A			d	d	d				d	d			
			EEE41XA**			d	d	d				d	d			
			EEE42XA**			d	d	d				d	d			
			EEE43XA**			d	d	d				d	d			
			EEE44XA**			d	d	d				d	d			
			EEPI41A			d	d	d	d	d	d	d	d	d	d	
			EEPI42A			d	d	d	d	d	d	d	d	d	d	
			EEC401A			d	d	d	d	d	d	d	d	d	d	
			EEP43A			d	d	d	d	d	d	d	d	d	d	
<p>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</p>																
30	<p>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.</p>															
31	<p>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.</p>															

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.
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