RAMAIAH
UNIVERSITY
OF APPLIED SCIENCES

Programme Specifications

B. Tech. Programme

Programme: Electrical and Electronics 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 2019
7	**Date of Programme Approval by the Academic Council of MSRUAS** May 2019
8	**Next Review Date:** May 2023
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

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.

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.

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.

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.

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.

15	**Programme Mission** 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
16	**Graduate Attributes** 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	**Programme Goal**
	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.
18	**Programme Objectives**
	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.

	The objectives of the programme are:
	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	**Programme Intended Learning Outcomes** The intended learning outcomes are listed under four headings: 1. Knowledge and Understanding, 2. Cognitive skills 3. Practical skills and 4. Capability/ Transferable skills. **Knowledge and Understanding** After undergoing this programme, a student will be able to KU1: Identify and describe the various electrical and electronic systems KU2: Explain the underlying engineering principles that govern the electrical and electronic systems KU3: Compare and contrast newer technologies over the existing technologies KU4: Able to collect, classify information and interpret information

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** |

Semester: 1, Physics Cycle

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 and Ethics	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, Chemistry Cycle

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**	**20**		**Maximum**	**24**

Semester:3

Sl.No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	19MHB201A	Engineering Mathematics - 3	3	1	0	4	100
2	19EEC202A	Signals and Systems	3	0	0	3	100
3	19EEC203A	Electronic Circuits	3	0	0	3	100
4	19EEC204A	Network Analysis	3	0	0	3	100
5	19EEC205A	Measurement and Instrumentation	3	0	0	3	100
6	19EEC206A	Electrical Machines - 1	3	2	0	4	100
7	19EEL207A	Electrical Machines Laboratory- 1	0	0	2	1	50
8	19EEL208A	Electrical Circuits & Measurements Laboratory	0	0	2	1	50
9	19CEM210A	Environmental Studies	2	0	0	0	Audit
		Total	**19**	**4**	**4**	**22**	**700**

Total number of contact hours per week	27 hours				
Number of credits can be registered	**Minimum**	**18**		**Maximum**	**22**

SEMESTER 4

Sl.No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	19MHB211A	Engineering Mathematics - 4	3	1	0	4	100
2	19EEC212A	Digital Logic Circuits	3	0	0	3	100
3	19EEC213A	Electromagnetic Field Theory	3	0	0	3	100
4	19EEC214A	Embedded Microprocessor and Controllers	3	0	0	3	100
5	19EEC215A	Electrical Machines - 2	3	2	0	4	100
6	19EEC216A	Linear Integrated Circuits	3	0	0	3	100
7	19EEL217A	Embedded Microprocessor and Controllers Laboratory	0	0	2	1	50
8	19EEL218A	Digital Electronics Laboratory	0	0	2	1	50
		Total	**18**	**4**	**4**	**22**	**700**

Total number of contact hours per week	26 hours				
Number of credits can be registered	**Minimum**	**18**		**Maximum**	**22**

SEMESTER 5

Sl.No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	19EEC301A	Transmission and Distribution	3	0	0	3	100
2	19EEC302A	Digital Signal Processing	3	0	0	3	100
3	19EEC303A	PLC and SCADA	3	0	0	3	100
4	19EEC304A	Control Systems	3	2	0	4	100
5	19EEC305A	Electrical Machine Design	3	0	0	3	100
6	19EEC306A	Estimation and Costing of Electrical Installations	3	0	0	3	100
7	19EEL307A	Electrical Machines - 2 Laboratory	0	0	2	1	50
8	19EEL308A	Control System Laboratory	0	0	2	1	50
		Total	**18**	**2**	**4**	**21**	**600**
Total number of contact hours per week			**24 hours**				
Number of credits can be registered			**Minimum**	**17**	**Maximum**		**21**

SEMESTER 6

Sl.No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	19EEC311A	Design and Computer Aided Drawing of Electrical Machine	3	0	0	3	100
2	19EEC312A	Switchgear and Protection	3	0	0	3	100
3	19EEC313A	Power Electronics and Drives	3	2	0	4	100
4	19EEC314A	Power System Analysis	3	2	0	4	100
5	19EEC315A	High Voltage Engineering	3	0	0	3	100
6	19EEL316A	Power Electronics and Drives Laboratory	0	0	2	1	50
7	19EEL317A	Power Systems Simulation Laboratory	0	0	2	1	50
8	19EEL318A	High Voltage and Relay Laboratory	0	0	2	1	50
		Total	**15**	**4**	**6**	**20**	**650**
Total number of contact hours per week			**25 hours**				
Number of credits can be registered			**Minimum**	**16**	**Maximum**		**20**

SEMESTER 7

Sl.No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	19EEE41XA	Professional Core Elective - 1	3	0	0	3	100
2	19EEE42XA	Professional Core Elective - 2	3	0	0	3	100
3	19EEE43XA	Professional Core Elective - 3	3	0	0	3	100
4	19EEO401A	Open Elective - 1/ Mooc Course / Paper publication in Journal	3	0	0	3	100
5	19EEP402A	I] Project Work - 1	0	0	12	6	100
	19EEP403A	II]Internship (Choose one)					
6	19EEP404A	Seminar	0	0	2	1	50
		Total	**12**	**0**	**14**	**19**	**650**
Total number of contact hours per week			**26 hours**				
Number of credits can be registered			**Minimum**	**15**		**Maximum**	**19**

SEMESTER 8

Sl.No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	19EEE44XA	Professional Core Elective -4	3	0	0	3	100
2	19EEO411A	Open Elective - 2/ Mooc Course/ Innovation competition	3	**0**	0	3	100
4	19EEP412A	Project Work - 2	0	**0**	20	10	100
		Total	**06**	**0**	**20**	**16**	**400**
Total number of contact hours per week			**26 hours**				
Number of credits can be registered			**Minimum**	**12**	**Maximum**		**16**

Note: Student needs to select three professional core elective courses during 7th sem, each from PCE-1, PCE-2 and PCE-3 groups respectively.
Student has to select one professional core elective course during 8th sem from PCE-4 group.
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	SEMESTER 7			SEMESTER 8
	PCE-1 Course Name	PCE-2 Course Name	PCE-3 Course Name	PCE-4 Course Name
Power Electronics	19EEE411A-Power Converter Control Techniques	19EEE421A- Industrial Drives and Applications	19EEE431A - Magnetics and Soft - Switching in Power Electronics	19EEE441A- Modelling and Control of Power Electronics System
Power Systems	19EEE412A- electrical Power Generation	19EEE422A- Power System Operation and Control	19EEE432A- Power Quality and Compensation Techniques	19EEE442A- Artificial Intelligence Applications to Power System
Control Systems	19EEE413A- Advanced Control System	19EEE423A- Introduction to Algorithms	19EEE433A- Soft Computing	19EEE443A- Embedded Systems
Common Group	19MTE401A- Probability and Statistics	19CSE421A- Data Sciences Foundation	19CSE431A- Data Sciences Algorithms and Applications	19CSE441A- Data Analytics

Note: Student needs to select three professional core elective courses during 7th sem, each from PCE-1, PCE-2 and PCE-3 groups respectively.
Student has to select one professional core elective course during 8th sem from PCE-4 group.

21	**Programme Delivery** As per the time table
22	**Teaching and Learning Methods** 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	**Assessment and Grading**

1. Every course will be assessed for a weight of 100%

2. For the courses having 100% theory

   There are two components-Component-1 and Component-2

   Component-1 (CE) carries a weight of 50% and Component -2 (SEE) carries a weight of 50%

   Component-1 (CE): 50% weight

   The course leader will indicate the mode of assessment in consultation and approval of the respective HoD and the faculty Dean, before commencement of the semester.

   The template for weightage of CE and SEE in percentages for each theory course is indicated in Table below.

ILO No.	Intended Learning Outcome	CE (Weightage: 50 %)				SEE (Weightage: 50 %)
		Assessment Type	Comp-1a	Comp-1b	Comp-1c	
		Comp Weightage (%)	00	00	00	Sem End Exam
1	ILO-1					
2	ILO-2					
3	ILO-3					
4	ILO-4					
5	ILO-5					
6	ILO-6					

CE – can be from any combination of the following:

Assignments, term Tests, Seminars, Tech Talks, Mini-Projects, Case-Studies, Self-Study, others, if any.

Component - 2 (SEE): 50% weight

A 3 hour duration Semester End Examination will be conducted for a maximum of 100 marks and will be reduced to 50% weight.

A student is required to score a minimum of 40% marks in Semester end examination and 40% marks overall in each theory course.

3.   For Laboratory/ Practical courses

Total Marks : 50

Component 1(CE) : Laboratory Report: 50% Weight

Component 2(SEE) Semester End Examination: 50% Weight

A 3 hour duration Semester End Examination will be conducted for a maximum of 50 marks.

The course leader will indicate the mode of assessment in consultation and approval of the respective HoD and the faculty Dean, before commencement of the semester.

The template for weightage of CE and SEE in percentages for each course is indicated in Table below.

ILO No.	Intended Learning Outcome	Assessment Type	CE (Weightage: 50 %)				SEE (Weightage: 50 %):
			Conduction of Lab Exercises)	(Viva)	(Lab Record Submission)	(Lab Test)	SEE
		Comp Weightage (%)					50
1	ILO-1						
2	ILO-2						

A student is required to score a minimum of 40% marks in Semester end examination and 40% marks overall in each laboratory course.

4. **For courses with a combination of theory and laboratory**

There are two components-Component-1 and Component-2

Component-1 (CE) carries a weight of 50% and Component -2 (SEE) carries a weight of 50%.

Component-1 (CE): 50% weight

The course leader will indicate the mode of assessment in consultation and approval of the respective HoD and the faculty Dean, before commencement of the semester.

The template for weightage of CE and SEE in percentages for each course is indicated in Table below.

ILO No.	Intended Learning Outcome	CE (Weightage: 50 %)				SEE (Weightage: 50 %)
		Assessment Type	Comp-1a	Comp-1b	Comp-1c Lab	SEE
		Comp Weightage (%)	00	00	00	50
1	ILO-1					
2	ILO-2					
3	ILO-3					
4	ILO-4					
5	ILO-5					
6	ILO-6					

CE – can be from any combination of the following:

Assignments, term Tests, Seminars, Tech Talks, Mini-Projects, Case-Studies, Self-Study, others,

A 3 hour duration Semester End Examination will be conducted for a maximum of 100 marks and will be reduced to 50 marks.

A student is required to score a minimum of 40% marks in Semester end examination and 40% marks overall in each theory course.

5. Other flexibilities (exceptions) as per the programme regulations.

24	**Attendance**
	A minimum of 80% attendance compulsory to sit for semester end examinations. Any condoning is as per the Academic Regulations of B.Tech. Programme.
25	**Award of Class**
	As per the Academic Regulations of B.Tech. Programme.
26	**Student support for Learning**
	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	**Quality Control Measures**
	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 and audit by external examiners 7. Staff Student Consultative Committee meetings 8. Student exit feedback

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Curriculum Map

a	b	c	d	e	f	KU1	KU2	KU3	KU4	CS1	CS2	CS3	CS4	PS1	PS2	PS3	PS4
\
Course Code \
					Knowledge and Understanding				Cognitive (Thinking) Skills (Critical, Analytical, Problem Solving)				Practical skills			

Intended Learning Outcomes

a	b	c	d	e	f	KU1	KU2	KU3	KU4	CS1	CS2	CS3	CS4	PS1	PS2	PS3	PS4
19TSH120A	19PHB102A	19MES103A	19EEC202A	19EEE41XA	19EEO401A	e	bde	ce	abcdf	e	e		bd	f	ef	ef	f
19TSH110A	19PHL107A	19EES104A[1]	19EEC203A	19EEE42XA	19EEP402A	cd	bcde	c	abef	f	cdf	cdef	cdf	f	cdf	f	ef
	19CHB111A	19ECS105A[2]	19EEC204A	19EEE43XA	19EEP403A	cde	bcde	ce	bdef	df	cdef	cf	bf	f	cef	f	f
	19CHL116A	19MES106A	19EEC205A	19EEE44XA	19EEP404A	d	bcd	de	bcef	df	f	f	bcd	f	df	f	f
	19MHB101A	19EEL108A[1]	19EEC206A		19EEO411A	d	d	d	bf	c		d	b	cd	cf	f	f
	19MHB110A	19ECL109A[2]	19EEC207A		19EEP412A	d	d	d	bcf	cf	f	df	bf	cdf	cf	f	f
	19MHB201A	19CES112A[1]	19EEC208A			d	d	d	bc	d			bd	d	d		
	19MHB211A	19EES113A[2]	19EEC212A			cd	cd	c	bcd	cd			b	c			
		19CSS114A	19EEC213A				d	c	cd				c				
		19CSL115A	19EEC214A			d	d	cd	cd		d	d	c		d		
		19ECL109A[1]	19EEC215A			d	d	d		cd		d		cd	c		
		19EEL108A[2]	19EEC216A			d	d	d		c	d	d	d	c	cd		
			19EEL217A			d	d	d	d		d	d			d		
			19EEL218A			d	d		d	d							
			19EEC301A			d	d	d			d	d	d			d	
			19EEC302A				d		d				d				
			19EEC303A			d			d		d				d		
			19EEC304A			d	d	d	d		d				d		
			19EEC305A				d	d		d		d		d		d	d
			19EEC306A				d	d	d								
			19EEL307A			d	d	d		d		d		d			
			19EEL308A			d	d	d	d		d				d		
			19EEC311A				d	d		d		d		d		d	d
			19EEC312A				d		d				d				
			19EEC313A			d	d	d		d	d				d	d	
			19EEC314A				d		d				d				d
			19EEC315A				d		d				d				d
			19EEL316A			d	d	d		d	d				d	d	
			19EEL317A				d		d				d				d
			19EEL318A				d		d				d				d
04	25	19	77	12	23	Total 160 credits											

EEE ** Depends on elective course chosen

29 Capability Map

Course Code						Skills									
a	b	c	d	e	f	GK	SL	WC	OC	P	B	IM	EM	L	AO
19TSH120A	19PHB102A	19MES103A	19EEC202A	19EEE41XA	19EEO401A	abcdef	abcdef	abcdef	af	af	af	abcdef	abcd	af	af
19TSH110A	19PHL107A	19EES104A¹	19EEC203A	19EEE42XA	19EEP402A	abcdef	abcdef	abcdef	abf	af	abf	abcdef	abcd	f	f
	19CHB111A	19MES106A	19EEC204A	19EEE43XA	19EEP403A	bcdef	bcdef	bcdef	f	f	f	bcdef	bcde	f	f
	19CHL116A	19EEL108A¹	19EEC205A	19EEE44XA	19EEP404A	bcdef	bcdef	bcdef	bf	f	f	bcdef	bcdef	f	f
	19MHB110A	19ECL109A²	19EEC206A		19EEO411A	bcdef	bcdef	bcdef	cf	f	cf	bcdef	bcdef		
	19MHB201A	19CES112A¹	19EEL207A		19EEP412A	bcdef	bcdef	bcdef	df	f	df	bcdef	bcdef	f	f
	19MHB211A	19CSS114A	19EEL208A			bcdef	bcdef	bcdef	d		d	bcdef	bcdef		
		19CSL115A	19EEC212A			cdef	cdef	cdef	c		c	cdef	cdef		
		19ECL109A¹	19EEC213A			cdef	cdef	cdef	c		c	cdef	cdef		
		19EEL108A²	19EEC214A			cdef	cdef	cdef	c		c	cdef	cdef		
			19EEC215A			d	d	d				d	d		
			19EEC216A			d	d	d				d	d		
			19EEL217A			d	d	d	d		d	d	d		
			19EEL218A			d	d	d	d		d	d	d		
			19EEC301A			d	d	d				d	d		
			19EEC302A			d	d	d				d	d		
			19EEC303A			d	d	d				d	d		
			19EEC304A			d	d	d				d	d		
			19EEC305A			d	d	d				d	d		
			19EEC306A			d	d	d				d	d		
			19EEL307A			d	d	d	d		d	d	d		
			19EEL308A			d	d	d	d		d	d	d		
			19EEC311A			d	d	d				d	d		
			19EEC312A			d	d	d				d	d		
			19EEC313A			d	d	d				d	d		
			19EEC314A			d	d	d				d	d		
			19EEC315A			d	d	d				d	d		
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			19EEL318A			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.

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