

Programme Specifications

B. Tech. Programme



Programme: Aerospace Engineering
Department: Automotive and Aeronautical
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

COURSE SPECIFICATIONS: AEROSPACE ENGINEERING

Faculty	Engineering and Technology (FET)
Department	Automotive and Aeronautical Engineering
Course	Aerospace Engineering
Dean of Faculty	Prof. M Arulanantham
Head of Department	Prof. R. Raja

1	Title of the Award B.Tech. in Aerospace 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 Course Specifications February 2018
7	Date of Course Approval by the Academic Council of MSRUAS May 2018
8	Next Review Date: May 2022
9	Course Approving Regulating Body and Date of Approval --
10	Course Accredited Body and Date of Accreditation --
11	Grade Awarded by the Accreditation Body --
12	Course Accreditation Validity --
13	Course Benchmark N/A
14	Rationale for the Programme Aerospace sector in India has seen robust growth and most big OEMs and service sector giants can be found in here. India is home to government organisations like Defence Research and Development Organisation (DRDO), Aeronautical Development Agency (ADA), Council for Scientific and Industrial Research (CSIR), Hindustan Aeronautics Limited (HAL), and private enterprises like Boeing, Airbus, General Electric, Pratt and Whitney, SNECMA, Honeywell, Goodrich Aerospace. Some are involved in Aerospace research and development, while others provide engineering services. Their already high annual average growth rate is likely to be boosted by the 'off-set' clause included by Government of India in all major aerospace transaction. High competitiveness in the airline sector has forced the manufacturers to not only continuously improve their product but also introduce cutting edge technology in their products. Aerospace industry traditionally has pushed technological boundaries in a bid to meet the ever increasing demand for faster, safer and cheaper travel. With the available experienced person power and infrastructure in the areas of fluid mechanics, structural engineering and propulsion, the University will be able to support their requirement for advanced products.

	<p>Aerospace is a highly interdisciplinary subject where there is interaction between aerodynamicists, structural engineers, manufacturers and electronic engineers. In this situation, University gives an ideal platform for the students as they are exposed to different disciplines and thereby increase their breadth of knowledge in aeronautics. The department is staffed with professors with extensive experience in national aerospace projects, excellent infrastructure and has developed a reputation amongst students, parents, industry and research sponsors. The faculty of engineering and technology plans for producing Aerospace engineers who can compete with students from the best universities in the world.</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 Aerospace Engineering.</p>

18	<p>Programme Objectives</p> <p>The Aerospace Engineering degree programme will impart knowledge of various aerospace systems and their sub systems; enhance the understanding of underlying engineering principles that govern the behavior of aerospace systems; teach analytical modeling, simulation and analysis to study the behavior of different aerospace systems; provide the skills to design, build and test sub-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 aerospace systems and their sub-systems 2. To facilitate the understanding of underlying engineering principles of aerospace systems to explain their construction and working 3. To model, simulate and analyze the behavior of aerospace sub-systems systems to predict and improve their performance 4. To design and develop prototypes of aerospace sub-systems to meet the specific needs 5. To instrument and test of aerospace sub-systems for validation 6. To train students on commercial software tools to design, model, simulate aerospace sub-systems 7. To train students on design and fabrication of aerospace sub-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 aerospace engineering</p> <p>KU2: Explain the underlying science and engineering principles that govern the systems/processes relevant to aerospace engineering</p> <p>KU3: Compare and contrast newer technologies over the existing technologies</p> <p>KU4: Collect, classify and interpret information relevant to aerospace engineering</p> <p>Cognitive Skills</p> <p>After undergoing this programme, a student will be able to-</p> <p>CS1: Design Aerospace systems/processes based on the desired function</p> <p>CS2: Model and simulate aerospace 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 aerospace systems and answer “what if” questions</p>

Practical Skills

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

- PS1: Manufacture/Fabricate aerospace components and assemble the system
- PS2: Instrument a system and test for its performance
- PS3: Operate and maintain a aerospace system for efficient and safe operations
- PS4: Program/Control a aerospace system to deliver desired level of performance

Capability Skills / 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	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: 1 Chemistry 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	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	18BSL109A	Engineering Chemistry Laboratory	0	0	2	1	50
7	18ESL106A	Basic Electrical Laboratory	0	0	2	1	50
8	18ESL110A	Computer Programming 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 : 2, Physics Cycle							
S. 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 Science	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: 3							
Sl. No.	Code	Course Title	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	18AUC201A	Materials Science for Engineers	3	0	0	3	100
3	18ASC201A	Introduction to Aerospace Systems	4	0	0	4	100
4	18ASC202A	Thermodynamics for Engineers	4	0	0	4	100
5	18AUC204A	Fluid Mechanics and Machines	3	2	0	4	100
6	18AUC205A	3D Modeling and Machine Drawing	0	0	4	2	100
7	18ASL203A	Aero Modeling Laboratory	0	0	2	1	50
8	18AUL207A	Fluid Mechanics and Machines Laboratory	0	0	2	1	50
9	18AUL208A	Materials Science Laboratory	0	0	2	1	50
10	18CEN201A	Environmental Studies	2	0	0	2	50
Total			19	4	10	26	800
Total Number of Contact Hours per week			33 hours				
Number of Credits can be registered			Minimum	21	Maximum	26	
Semester: 4							
Sl. No.	Code	Course Title	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	18ASC204A	Strength of Materials	3	2	0	4	100
3	18ASC205A	Theory of Machines and Mechanisms	3	2	0	4	100
4	18AUC211A	Manufacturing Processes for Automotive and Aerospace Systems	4	0	0	4	100
5	18ASC206A	Aerodynamics – 1	4	0	0	4	100
6	18ASL207A	Strength of Materials Laboratory	0	0	2	1	50
7	18ASL208A	Kinematics and Dynamics Simulation Laboratory	0	0	2	1	50
8	18AUL215A	Manufacturing Processes Laboratory	0	0	2	1	50
9	18ASL209A	Aerodynamics Laboratory -1	0	0	2	1	50
10	18HST201A	Constitution, Human Rights and Law	2	0	0	2	50
Total			19	6	8	26	750
Total Number of Contact Hours per week			33 hours				
Number of Credits can be registered			Minimum	21	Maximum	26	

Semester: 5							
Sl. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	18ASC301A	Aerospace Structures - 1	3	2	0	4	100
2	18ASC302A	Aerodynamics - 2	3	2	0	4	100
3	18ASC303A	Measurements and Control Systems Engineering	4	0	0	4	100
4	18ASC304A	Aerospace Propulsion- 1	3	2	0	4	100
5	18ASC305A	Aircraft Performance , Stability and Control	3	0	0	3	100
6	18ASL306A	Aerospace Structures Laboratory	0	0	2	1	50
7	18ASL307A	Aerodynamics Laboratory - 2	0	0	2	1	50
8	18AUL309A	Machining Practices	0	0	2	1	50
9	18ASL308A	Measurements and Control Systems Engineering Laboratory	0	0	2	1	50
10	18ASC309A	Engineering Economics and Cost Estimation for Aerospace Engineers	3	0	0	3	100
Total			19	6	8	26	800
Total Number of Contact Hours per week			33 hours				
Number of Credits can be registered			Minimum	21	Maximum	26	

Semester: 6							
Sl. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	18ASC310A	Aerospace Structures - 2	3	2	0	4	100
2	18ASC311A	Finite Elements Analysis	3	2	0	4	100
3	18ASC312A	Aerospace Propulsion -2	4	0	0	4	100
4	18ASC313A	Aerospace Vibration	3	2	0	4	100
5	18ASC314A	Computational Fluid Dynamics	3	2	0	4	100
6	18ASC315A	Aircraft Instrumentation and Avionics	3	0	0	3	100
7	18ASL316A	Aerospace Propulsion Laboratory	0	0	2	1	50
8	18ASL317A	CAE Practices for Aerospace Applications	0	0	2	1	50
9	18ASL318A	CFD Laboratory	0	0	2	1	50
Total			19	8	6	26	750
Total Number of Contact Hours per week			33 hours				
Number of Credits can be registered			Minimum	21	Maximum	26	

Semester: 7

Sl. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks	
1	18ASE4XXA	Professional Core Elective -1	4	0	0	4	100	
2	18ASE4XXA	Professional Core Elective -2	4	0	0	4	100	
3	18ASE4XXA	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	18ASC401A	Seminar	0	0	2	1	50	
7	18ASPI41A 18ASPI42A	i) Project Work – 1 ii) Internship (Choose Any One)	0	0	16	8	100	
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	

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

Semester: 8

Sl. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks	
1	18ASE44XA	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	18ASCP43A	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 (PCE):						
7 th Semester						
Name of the Specialisation	PCE - 1		PCE - 2		PCE - 3	
	Code	Course Title	Code	Course Title	Code	Course Title
Aerospace Vehicles	18ASE411A	Conceptual Aircraft Design	18ASE421A	Unmanned Air Vehicles	18ASE431A	Rockets and Missiles
Aircraft Structures	18ASE412A	Experimental Stress Analysis	18ASE422A	Composite Structures	18ASE432A	Engineering Optimisation
Aerospace materials	18ASE413A	Light Weight and Novel Materials	18ASE423A	Testing Techniques for Aerospace Systems	18ASE433A	Advanced Manufacturing Techniques
Flow Dynamics	18ASE414A	Advanced Fluid Mechanics	18ASE424A	Advanced Computational Fluid Dynamics	18ASE434A	Helicopter Aerodynamics
Data Science and Analytics	18BSE401A	Probability and Statistics	18CSE421A	Data Science Foundation	18CSE431A	Data Science Algorithms and applications

Note: Totally student needs to select three professional core elective courses during 7th Semester and each one course from PCE-1, PECE-2 and PCE-3 Group must be selected.

8 th Semester		
PCE - 4		
Name of the Specialisation	CODE	
Aerospace Vehicles	18ASE441A	Combat and Transport Aircrafts
Aircraft Structures	18ASE442A	Fatigue and Fracture Mechanics
Aerospace materials	18ASE443A	Surface Engineering
Flow Dynamics	18ASE444A	Aerospace Heat Transfer
Data Science and Analytics	18CSE441A	Data Analytics

Note: Student must select any one course from PCE-4 during 8th Semester.

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.

21	Course 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	Assessment and Grading <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: 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- section20 9. Other flexibilities (exceptions) are as per the Academic Regulations of B.Tech. Programme.
24	Attendance 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. 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 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 <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)

28 Curriculum Map

Course code					Intended Learning Outcomes												
					Knowledge and Understanding				Cognitive(Thinking) Skills(Critical, Analytical, Problem Solving)				Practical skills				
18HST	18BSC/L	18ESC/L	18ASC/L/E	18OEE	KU1	KU2	KU3	KU4	CS1	CS2	CS3	CS4	PS1	PS2	PS3	PS4	
a	b	c	d	e													
101A	101A	101A	AUC201A	41XA	bcde	cde	cde	cde	d	d	d	d					
102A	102A	102A	201A	42XA	bcde	cde	cde	cde									
201A	L103A	103A	202A	43XA	bcde	cde	cde	cde	d	d	d		bc				
	104A	L104A	AUC204A	44XA	bcde	cde	de	de			d		c				
	105A	L105A	AUC205A		bcd	cd	cd	cd	d	d	d		d	c		c	
	L106A	106A	L203A		bcd	cd	cd	cd	c	c	c		bd	d	d	d	
	207A	107A	AUL207A		bcd	cd	cd	cd	bc	bc				d	d		
	208A	108A	AUL208A		bcd	bc	cd	cd	b	b		b	d				
	CEN201A	L109	204A		cd	cd	cd	cd		c	d	cd		c	c		
		L110	205A		cd	cd	cd	cd	d	d	d	d	c				
			AUC211A		d	d	d	d	d		d	d					
			206A		d	d	d	d	d		d	d					
			L207A			d							d	d	d		
			L208A		d				d	d	d	d	d	d	d		
			AUL215A		d	d	d				d	d	d				
			L209A		d	d	d	d	d		d	d		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	d	d					
			305A		d	d	d	d	d	d	d	d					
			L306A		d	d	d					d	d	d	d		
			L307A		d	d	d	d	d	d	d			d	d	d	
			AUL309A		d	d	d	d		d	d		d				
			L308A		d									d	d	d	
			309A		d	d	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	d	d					
			313A		d	d	d	d	d	d	d	d					
			314A		d	d	d	d	d	d	d	d					
			315A		d		d	d			d						
			L316A		d							d		d	d		
			L317A		d	d	d	d		d	d			d	d		
			L318A		d	d	d	d		d	d			d	d	d	
			E41XA*														
			E42XA*														
			E43XA*														
			E44XA*														
			401A		d	d	d	d			d	d					
			PI4XA*		d	d	d	d	d	d	d	d	d	d	d	d	
			P43A		d	d	d	d	d	d	d	d	d	d	d	d	
6	27	26	129	12	Total 200 credits												

*Depends on elective Course chosen

29	Capability / Transferable Skills Map														
	Course					Skills									
	18HST	18BSC /L	18ESC /L	18ASC /L/E	18 OEE	GK	SL	WC	OC	P	B	IM	PM	L	AO
	a	b	c	d	e	abcde	abcde	abcde	a	a	a	abcde	abcde	a	a
	101A	101A	101A	AUC201A	41XA	abcde	abcde	abcde	abcde	a	a	abcde	abcde	a	a
	102A	102A	102A	201A	42XA	abcde	abcde	abcde	abcde	a	a	abcde	abcde	a	a
	201A	L103A	103A	202A	43XA	abcde	abcde	abcde	ab	a	a	abcde	abcde		
		104A	L104A	AUC204A	44XA	bcde	bcde	bcde	c			bcde	bcde		
		105A	L105A	AUC205A		bcd	bcd	bcd	c			bcd	bcd		
		L106A	106A	L203A		bcd	bcd	bcd	bd			bcd	bcd		
		207A	107A	AUL207A		bcd	bcd	bcd	d			bcd	bcd		
		208A	108A	AUL208A		bcd	bcd	bcd	d			bcd	bcd		
		CEN201A	L109A	204A		bcd	bcd	bcd	c			cd	cd		b
			L110A	205A		cd	cd	cd	c			cd	cd		
				AUC211A		d	d	d				d	d		
				206A		d	d	d				d	d		
				L207A		d	d	d	d			d	d		
				L208A		d	d	d	d			d	d		
				AUL215A		d	d	d	d			d	d		
				L209A		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		
				L306A		d	d	d	d			d	d		
				L307A		d	d	d	d			d	d		
				AUL309A		d	d	d	d			d	d		
				L308A		d	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		
				L316A		d	d	d	d			d	d		
				L317A		d	d	d	d			d	d		
				L318A		d	d	d	d			d	d		
				E41XA*		d	d	d				d	d		
				E42XA*		d	d	d				d	d		
				E43XA*		d	d	d				d	d		
				E44XA*		d	d	d				d	d		
				401A		d	d	d	d	d	d	d	d	d	d
				PI4XA*		d	d	d	d	d	d	d	d	d	d
				P43A		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.														

