

Part II: Course Structure & Semester wise Credit Distribution							
First Semester (First Year)							
Mandatory Induction Program- 3 Weeks Duration							
Sl No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	BS	BS-M101	Mathematics-I	3	1	0	4
2	BS	BS-CH101	Chemistry	3	0	0	3
3	ES	ES-EE101	Basic Electrical and Electronics Engineering	2	1	0	3
4	HM	HM-HU101	Communication Skills (Jeevan Kaushal-I)	2	0	0	2
5	HM	HM-HU102	Introduction to Indian Knowledge System (Indian Knowledge System-I)	2	0	0	2
Total Theory				12	2	0	14
Practical/ Sessional/ Mandatory Course							
1	BS	BS-CH191	Chemistry Laboratory	0	0	3	1.5
2	ES	ES-EE191	Basic Electrical and Electronics Engineering Laboratory	0	0	4	2
3	ES	ES-ME192	Workshop/Manufacturing Practices	0	0	4	2
4	HM	HM-HU191	Communication Skill Laboratory	0	0	2	1
Total Practical/ Sessional/ Audit Course				0	0	13	6.5
Total of First Semester				12	2	13	20.5

Second Semester (First Year)							
Sl No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	BS	BS-M201	Mathematics-II	3	1	0	4
2	BS	BS-PH201	Physics	3	1	0	4
3	ES	ES-CS201	Programming for Problem Solving	3	0	0	3
4	HM	HM-HU203	Inculcation of Human Values and Professional Ethics (Mulya Pravah)	2	0	0	2
Total Theory				11	2	0	13
Practical/ Sessional/ Mandatory Course							
1	BS	BS-PH291	Physics Laboratory	0	0	3	1.5
2	ES	ES-CS291	Programming for Problem Solving Laboratory	0	0	4	2
3	ES	ES-ME291	Engineering Graphics and Design	0	0	4	2
4	PW	PW-BS281	Ideation Laboratory	0	0	2	1
5	AU	AU271	NSS/NCC	2	0	0	0
Total Practical/ Sessional/ Audit Course				0	0	13	6.5
Total of Second Semester				13	2	13	19.5

Third Semester (Second Year)							
Sl. No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	ES	ES-AUE301	Engineering Mechanics	3	1	0	4
2	ES	ES-AUE302	Materials Engineering	3	0	0	3
3	BS	BS-M303	Mathematics -III	3	0	0	3
4	PC	PC-AUE301	Thermodynamics and Thermal Engineering	3	1	0	4
5	PC	PC-AUE302	Manufacturing Technology	4	0	0	4
6	PC	PC-AUE303	Automotive Engines	3	0	0	3
Total Theory				19	2	0	21
Practical/ Sessional/ Mandatory Course							
1	PC	PC-AUE391	Machine Drawing	0	0	3	1.5
2	PC	PC-AUE392	Manufacturing and Testing Laboratory	0	0	3	1.5
3	AU	AU-BS371	Environmental Science	2	0	0	0
Total Practical/ Sessional/ Audit Course				2	0	6	3
Total of Third Semester				21	2	6	24

Fourth Semester (Second Year)							
Sl. No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	HM	HM-HU401	Leadership Skill and Management (JeevanKaushal-III)	2	0	0	2
2	ES	ES-AUE401	Fluid Mechanics and Hydraulic Machines	3	0	0	3
3	BS	BS-BIO401	Biology for Engineers	2	0	0	2
4	BS	BS-M401	Vedic Mathematics (Indian Knowledge System -II)	2	0	0	2
5	PC	PC-AUE401	Strength of Materials	3	0	0	3
6	PC	PC-AUE402	Automotive Chassis	3	0	0	3
7	PC	PC-AUE403	Mechanics of Machines	3	1	0	4
Total Theory				18	1	0	19
Practical/ Sessional/ Mandatory Course							
1	PC	PC-AUE491	Automobile Engineering Laboratory-I (Automotive Components Laboratory)	0	0	3	1.5
2	PC	PC-AUE492	Fluid Mechanics and Heat Transfer Laboratory	0	0	3	1.5
3	PW	PW-AUE481	Project-I (Mini Project)	0	0	4	2
Total Practical/ Sessional/ Audit Course				0	0	10	5
Total of Fourth Semester				18	1	10	24

Fifth Semester (Third Year)							
Sl. No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	BS	BS-M501	Basics of Indian Astronomy (Indian Knowledge System-III)	2	0	0	2
2	PC	PC-AUE501	Metrology and Instrumentation	2	0	0	2
3	PC	PC-AUE502	Automotive Transmission	3	0	0	3
4	PC	PC-AUE503	Automotive Electrical and Electronics System	3	0	0	3
5	PC	PC-AUE504	Engineering Design	3	0	0	3
6	PE	PE-AUE501	Professional Elective-I	3	0	0	3
7	OE	OE-XXXXX	Open Elective – I	2	0	2	3
Total Theory				18	0	2	19
Practical/ Sessional/ Mandatory Course							
1	HM	HM-HU591	Professional Skills (JeevanKaushal-II)	1	0	2	2
2	PC	PC-AUE591	Automobile Engineering Laboratory-II (Engine Testing and Pollution Measurement Laboratory)	0	0	3	1.5
3	PC	PC-AUE592	Automobile Engineering Laboratory-III (Automotive Electrical and Electronics Laboratory)	0	0	3	1.5
4	HM	HM-HU571	Aptitude Skill Development-I	1	0	0	1
Total Practical/ Sessional/ Audit Course				2	0	8	6
Total of Fifth Semester				20	0	10	25

Sixth Semester (Third Year)							
Sl. No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	PC	PC-AUE601	Automotive Electrification and Hybrid System	3	0	0	3
2	PC	PC-AUE602	Vehicle Dynamics	3	0	0	3
3	PC	PC-AUE603	Vehicle Body Engineering	2	0	0	2
4	PE	PE-AUE601	Professional Elective-II	3	0	0	3
5	PE	PE-AUE602	Professional Elective-III	3	0	0	3
6	OE	OE-XXXXX	Open Elective-II	2	0	2	3
Total Theory				16	0	2	17
Practical/ Sessional/ Mandatory Course							
1	PC	PC-AUE691	Automobile Engineering Laboratory-IV (Automotive Design Laboratory)	0	0	3	1.5

2	PC	PC-AUE692	Automobile Engineering Laboratory- V (Vehicle Maintenance and Drivetrain Laboratory)	0	0	3	1.5
3	PW	PW-AUE681	Project-II	0	0	4	2
4	HM	HM-HU671	Aptitude Skill Development-II	1	0	0	1
<i>Total Practical/ Sessional/ Audit Course</i>				1	0	10	6
Total of Sixth Semester				17	0	12	23

Seventh Semester (Fourth Year)

Sl. No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	PC	PC-AUE701	Off Road Vehicle	3	0	0	3
2	PE	PE-AUE701	Professional Elective-IV	3	0	0	3
3	PE	PE-AUE702	Professional Elective-V	3	0	0	3
Total Theory				9	0	0	9
Practical/ Sessional/ Mandatory Course							
1	PW	PW-AUE781	Project-III	0	0	4	2
2	PW	PW-AUE771	Summer Internship	0	0	2	1
Total Practical/ Sessional/ Audit Course				0	0	6	3
Total of Seventh Semester				9	0	6	12

Eighth Semester (Fourth Year)

Sl. No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	HM	HM-HU801	Universal Human Values -II (Jeevan Kaushal-IV)	2	0	0	2
2	BS	BS-M801	Introduction to Indian Astronomy (Indian Knowledge System-IV)	2	0	0	2
3	OE	OE-XXXXX	Open Elective-III	3	0	0	3
Total Theory				7	0	0	7
Practical/ Sessional/ Mandatory Course							
1	PW	PW-AUE881	Project-IV	0	0	8	4
2	PW	PW-AUE882	Comprehensive Viva Voce	0	0	0	1
Total Practical/ Sessional/ Audit Course				0	0	8	5
Total of Eighth Semester				7	0	8	12

Part III: Specializations and corresponding List of Elective Papers

A. Specialization in Automotive Design and Manufacturing

Sl. No.	Semester	Course Code	Course Name	Course Title	Contact Hours			Credits
					L	T	P	
Theory								
1	V	PE-AUE501A	Professional Elective-I	Vibration and Noise Engineering	3	0	0	3
2	VI	PE-AUE601A	Professional Elective-II	Design of Vehicle Component	3	0	0	3
3	VI	PE-AUE602A	Professional Elective-III	A. Manufacturing and Operation Management B. Process Planning and Cost Estimation	3	0	0	3
	VII	PE-AUE701A	Professional Elective-IV	A. Automotive Materials B. Quality Assurance and Reliability	3	0	0	3
4	VII	PE-AUE702A	Professional Elective-V	Finite Element Techniques	3	0	0	3
Total Theory					15	0	0	15
Practical/ Sessional/ Mandatory Course								
Total Practical/ Sessional/ Audit Course					0	0	0	0
Total					15	0	0	15

B. Specialization in Thermal Engineering

Sl. No.	Semester	Course Code	Course Name	Course Title	Contact Hours			Credits
					L	T	P	
Theory								
1	V	PE-AUE501B	Professional Elective-I	Combustion Thermodynamics and Heat Transfer	3	0	0	3
2	VI	PE-AUE601B	Professional Elective-II	Alternate Fuels and Energy Systems	3	0	0	3
3	VI	PE-AUE602B	Professional Elective-III	A. Advanced Theory of Internal Combustion Engines and Simulation B. Modelling and Simulation of Internal Combustion Engines	3	0	0	3

4	VII	PE-AUE701B	Professional Elective-IV	A. Automotive HVAC B. Fire Safety and Thermal Protection in Automobile	3	0	0	3
5	VII	PE-AUE702B	Professional Elective-V	Computational Fluid Dynamics	3	0	0	3
<i>Total Theory</i>					15	0	0	15
Practical/ Sessional/ Mandatory Course								
1					0	0	0	0
<i>Total Practical/ Sessional/ Audit Course</i>					0	0	0	0
Total					15	0	0	15

Part IV: List of Open Elective Papers

Open Elective Papers offered by AUE department

Sl. No.	Semester	Course Code	Course Name	Course Title	Contact Hours			Credits
					L	T	P	
Theory								
1	VII	OE-AUE701A	Open Elective-I	Industrial Engineering	3	0	0	3
2	VII	OE-AUE701B		Automation and Control				
3	VII	OE-AUE701C		Fundamentals of Automobile Engineering				
4	VIII	OE-AUE801A	Open Elective-II	Product Innovation and Entrepreneurship	3	0	0	3
5	VIII	OE-AUE801B		Power Plant Engineering				
6	VIII	OE-AUE801C		Hybrid and Electric Vehicle				
7	VIII	OE-AUE801D		Analysis and Performance of Fluid Machines	3	0	0	3
8	VIII	OE-AUE801E		Maintenance Engineering				
Total Theory					9	0	0	9
Practical/ Sessional/ Mandatory Course								
1					0	0	0	0
Total Practical/ Sessional/ Audit Course					0	0	0	0
Total					9	0	0	9

Part V: Curriculum Structure for Minor Degree

Minor Degree in Electric Vehicle

Sl. No.	Semester	Course Code	Course Title	Contact Hours			Credits
				L	T	P	
Theory							
1	VI	MN-AUE601	Introduction to Electric Vehicles	4	0	0	4
2	VII	MN-AUE701	Battery Technology and Energy Storage Systems	4	0	0	4
3	VII	MN-AUE702	Electric Drives and Power Electronics	4	0	0	4
4	VIII	MN-AUE801	EV Powertrain and Control Systems	4	0	0	4
Total Theory				16	0	0	16
Practical/ Sessional/ Mandatory Course							
1	VII	MN-AUE791	Electric Drives and Power Electronics Laboratory	0	0	4	2
2	VIII	MN-AUE881	Mini Project	0	0	4	2
Total Practical/ Sessional/ Audit Course				0	0	8	4
Total				16	0	8	20