K.S.R. COLLEGE OF ENGINEERING
An Autonomous Institution
Approved by AICTE and Affiliated to Anna University, Chennai
Accredited by NAAC ('A++' Grade)

Department **Department of Automobile Engineering**
Programme **B.E – Automobile Engineering**

Vision of the Institution

IV	To become a globally renowned institution in Engineering and Management, committed to providing holistic education that fosters research, innovation and sustainable development.

Mission of the Institution

IM 1	Deliver value-based quality education through modern pedagogy and experiential learning.
IM 2	Enrich Engineering and Managerial Skills through cutting-edge laboratories to meet evolving global demands.
IM 3	Empower research and innovation by integrating collaboration, social responsibility, and commitment to sustainable development.

Vision of the Department

DV	To provide quality education, facilitate research and innovation to meet the global demand in automotive industries and society.

Mission of the Department

DM 1	Impart quality education through flexible curriculum and higher learning.
DM 2	Provide training through automotive industrial collaboration for global needs.
DM 3	Enhance research and innovation for sustainable environment.

Program Educational Objectives (PEOs)

The graduates of the programme will be able to	
PEO 1	**Core Competency:** Apply technical knowledge in automobile engineering field.
PEO 2	**Professionalism:** Impart inter-disciplinary skills and innovations for challenges emerging in automobile sector.
PEO 3	**Career Development**: Enrich knowledge, communication, professional ethics and leadership skills.

Program Outcomes (POs)	
PO1	**Engineering Graduates will be able to:** **Engineering Knowledge:** Apply knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to develop to the solution of complex engineering problems.
PO2	**Problem Analysis:** Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions with consideration for sustainable development.
PO3	**Design/Development of Solutions:** Design creative solutions for complex engineering problems and design/develop systems/components/processes to meet identified needs with consideration for the public health and safety, whole-life cost, net zero carbon, culture, society and environment as required.
PO4	**Conduct Investigations of Complex Problems:** Conduct investigations of complex engineering problems using research-based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions.
PO5	**Engineering Tool Usage:** Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve complex engineering problems.
PO6	**The Engineer and The World:** Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to economy, health, safety, legal framework, culture and environment.
PO7	**Ethics:** Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws.
PO8	**Individual and Collaborative Team work:** Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.
PO9	**Communication:** Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations considering cultural, language, and learning differences
PO10	**Project Management and Finance:** Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.
PO11	**Life-Long Learning:** Recognize the need for, and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change.
Program Specific Outcomes (PSOs)	
PSO1	**Professional competency:** Design and analyze automotive components, electrical and electronic systems.
PSO2	**Troubleshoot Skills:** Develop as a professional in maintenance and service of automotive systems.

	K.S.R. COLLEGE OF ENGINEERING An Autonomous Institution Approved by AICTE and Affiliated to Anna University, Chennai Accredited by NAAC ('A++' Grade)	Curriculum UG R - 2024
Department	**Department of Automobile Engineering**	
Programme	**B.E. Automobile Engineering**	

SEMESTER I

S. No.	Course Code	Course Title	Category	Periods / Semester					Credit	Max. Marks		
				L	T	P	SL	Tot		CA	ES	Tot
Induction Programme			-	-	-	-		-	-	-	-	-
THEORY COURSES												
1.	24ENT19	Professional Communication	HSMC	45	0	0	45	90	**3**	40	60	100
2.	24MET16	Engineering Drawing	PCC	30	0	60	30	120	**4**	40	60	100
3.	24ITT16	Programming for Problem Solving	ESC	45	0	0	45	90	**3**	40	60	100
4.	24GET19	தமிழர் மரபு / Heritage of Tamils	HSMC	15	0	0	15	30	**1**	40	60	100
THEORY COURSES WITH LABORATORY COMPONENT												
5.	24MAI19	Matrices and Calculus	BSC	30	15	30	45	120	**4**	50	50	100
6.	24PHI06	Applied Physics	BSC	45	0	30	45	120	**4**	50	50	100
LABORATORY COURSES												
7.	24ITP16	Programming for Problem Solving Laboratory	ESC	0	0	30	0	30	**1**	60	40	100
8.	24GEP17	Manufacturing Practices Laboratory	ESC	0	0	30	0	30	**1**	60	40	100
EMPLOYABILITY ENHANCEMENT COURSE												
9.	24SSP19	Aptitude and Coding Skills - I	EEC	0	0	30	0	30	**1**	60	40	100
			TOTAL	**210**	**15**	**210**	**225**	**660**	**22**	**900**		

SEMESTER II												
S. No.	Course Code	Course Title	Category	Periods / Semester					Credit	Max. Marks		
				L	T	P	SL	Tot		CA	ES	Tot
THEORY COURSES												
1.	24CST29	Python Programming	ESC	45	0	0	45	90	**3**	40	60	100
2.	24MET26	Design Thinking	PCC	30	0	0	30	60	**2**	40	60	100
3.	24EET06	Basic Electrical and Electronics Engineering	ESC	45	0	0	45	90	**3**	40	60	100
4.	24GET29	தமிழரும் தொழில்நுட்பமும் / Tamils and Technology	HSMC	15	0	0	15	30	**1**	40	60	100
THEORY COURSES WITH LABORATORY COMPONENT												
5.	24MAI29	Probability and Statistics	BSC	30	15	30	45	120	**4**	50	50	100
6.	24CHI07	Applied Chemistry	BSC	45	0	30	45	120	**4**	50	50	100
LABORATORY COURSES												
7.	24ENP29	Professional Communication Laboratory	HSMC	0	0	30	0	30	**1**	60	40	100
8.	24CSP29	Python Programming Laboratory	ESC	0	0	30	0	30	**1**	60	40	100
9.	24AUP21	Computer Aided Drawing Laboratory	PCC	0	0	30	0	30	**1**	60	40	100
EMPLOYABILITY ENHANCEMENT COURSE												
10.	24SSP29	Aptitude and Coding Skills - II	EEC	0	0	30	0	30	**1**	60	40	100
MANDATORY COURSE												
11.	24MCP09	Mandatory Course – I	MC	0	0	30	0	30	**0**	-	-	-
			TOTAL	**210**	**15**	**210**	**225**	**660**	**21**	**1000**		

SEMESTER III												
S. No.	Course Code	Course Title	Category	Periods / Semester					Credit	Max. Marks		
				L	T	P	SL	Tot		CA	ES	Tot
THEORY COURSES												
1.	24MAT36	Optimization Techniques	BSC	45	15	0	60	120	**4**	40	60	100
2.	24AUT31	Automotive Thermal Engineering	PCC	45	0	0	45	90	**3**	40	60	100
3.	24AUT32	Automotive Chassis	PCC	45	0	0	45	90	**3**	40	60	100
4.	24MET36	Engineering Mechanics	PCC	45	15	0	60	120	**4**	40	60	100
5.	24MET37	Fluid Mechanics and Machinery	PCC	45	0	0	45	90	**3**	40	60	100
6.	24SFT36	Manufacturing Processes	PCC	45	0	0	45	90	**3**	40	60	100
LABORATORY COURSES												
7.	24MEP36	Fluid Mechanics and Machinery Laboratory	PCC	0	0	45	0	45	**1.5**	60	40	100
8.	24SFP36	Manufacturing Processes Laboratory	PCC	0	0	45	0	45	**1.5**	60	40	100
9.	24MEP37	Design Studio - I	PCC	0	0	30	0	30	**1**	60	40	100
EMPLOYABILITY ENHANCEMENT COURSE												
10.	24SDP39	Soft Skills Development - III	EEC	0	0	30	0	30	**1**	60	40	100
TOTAL				**270**	**30**	**150**	**300**	**750**	**25**	**1000**		

SEMESTER IV												
S. No.	Course Code	Course Title	Category	Periods / Semester					Credit	Max. Marks		
				L	T	P	SL	Tot		CA	ES	Tot
THEORY COURSES												
1.	24MAT46	Numerical and Computational Techniques	BSC	45	15	0	60	120	**4**	40	60	100
2.	24GET49	Universal Human Values	HSMC	45	0	0	45	90	**3**	40	60	100
3.	24AUT41	Engines and Transmission Systems	PCC	45	0	0	45	90	**3**	40	60	100
4.	24AUT42	Vehicle Body Engineering	PCC	45	0	0	45	90	**3**	40	60	100
5.	24MET46	Strength of Materials	PCC	45	15	0	60	120	**4**	40	60	100
6.		Professional Elective – I	PEC	45	0	0	45	90	**3**	40	60	100
LABORATORY COURSES												
7.	24AUP41	Automotive Components Laboratory	PCC	0	0	45	0	45	**1.5**	60	40	100
8.	24MEP46	Strength of Materials Laboratory	PCC	0	0	45	0	45	**1.5**	60	40	100
9.	24MEP47	Design Studio - II	PCC	0	0	30	0	30	**1**	60	40	100
EMPLOYABILITY ENHANCEMENT COURSE												
10.	24AUP43	Technical Presentation	EEC	0	0	30	0	30	**1**	60	40	100
11.	24SDP49	Soft Skills Development - IV	EEC	0	0	30	0	30	**1**	60	40	100
TOTAL				**270**	**30**	**180**	**300**	**780**	**26**	**1100**		

SEMESTER V												
S. No.	Course Code	Course Title	Category	Periods / Semester					Credit	Max. Marks		
				L	T	P	SL	Tot		CA	ES	Tot
THEORY COURSES												
1.	24AUT51	Mechanics of Machines	PCC	45	15	0	60	120	**4**	40	60	100
2.	24AUT52	Automotive Fuels and Lubricants	PCC	45	0	0	45	90	**3**	40	60	100
3.	24AUT53	Automotive Electrical and Electronics	PCC	45	0	0	45	90	**3**	40	60	100
4.	24AUT54	Automotive Vehicle Safety	PCC	45	0	0	45	90	**3**	40	60	100
5.		Professional Elective – II	PEC	45	0	0	45	90	**3**	40	60	100
THEORY COURSES WITH LABORATORY COMPONENT												
6.	24AUI51	Automotive Engine and Chassis Components Design	PCC	45	0	30	45	120	**4**	50	50	100
LABORATORY COURSES												
7.	24AUP51	Automotive Fuels and Lubricants Laboratory	PCC	0	0	45	0	45	**1.5**	60	40	100
8.	24AUP52	Automotive Electrical and Electronics Laboratory	PCC	0	0	45	0	45	**1.5**	60	40	100
EMPLOYABILITY ENHANCEMENT COURSE												
9.	24AUP53	Industry Oriented Course - I	EEC	0	0	0	0	0	**1**	100	-	100
10.	24AUP54	Internship – I*	EEC	0	0	0	0	0	**1**	100	-	100
MANDATORY COURSE												
11.		Mandatory Course - II	MC	30	0	0	0	30	**0**	100	-	100
TOTAL				**300**	**15**	**120**	**285**	**720**	**25**	**1100**		

***The students should undergo internship during the IV semester summer vacation.

SEMESTER VI													
S. No.	Course Code	Course Title	Category	Periods / Semester					Credit	Max. Marks		
				L	T	P	SL	Tot		CA	ES	Tot
THEORY COURSES												
1.	24GET69	Entrepreneurship Development	HSMC	45	0	0	45	90	**3**	40	60	100
2.	24AUT61	Vehicle Maintenance and Testing	PCC	45	0	0	45	90	**3**	40	60	100
3.		Professional Elective – III	PEC	45	0	0	45	90	**3**	40	60	100
4.		Professional Elective – IV	PEC	45	0	0	45	90	**3**	40	60	100
5.		Open Elective – I	OEC	45	0	0	45	90	**3**	40	60	100
LABORATORY COURSES												
6.	24AUP61	Vehicle Maintenance and Reconditioning Laboratory	PCC	0	0	45	0	45	**1.5**	60	40	100
7.	24AUP62	Engine Performance and Emission Testing Laboratory	PCC	0	0	45	0	45	**1.5**	60	40	100
EMPLOYABILITY ENHANCEMENT COURSES												
8.	24AUP63	Industry Oriented Course - II	EEC	0	0	0	0	0	**1**	100	-	100
9.	24AUP64	Mini Project	EEC	0	0	60	0	60	**2**	60	40	100
MANDATORY COURSE												
10.		Mandatory Course - III	MC	30	0	0	0	30	**0**	100	-	100
TOTAL				**255**	**0**	**150**	**225**	**630**	**21**	**1000**		

SEMESTER VII												
S. No.	Course Code	Course Title	Category	Periods / Semester					Credit	Max. Marks		
				L	T	P	SL	Tot		CA	ES	Tot
THEORY COURSES												
1.	24GET79	Project Management	HSMC	45	0	0	45	90	**3**	40	60	100
2.	24AUT71	Electric and Hybrid Vehicles	PCC	45	0	0	45	90	**3**	40	60	100
3.	24AUT72	Intelligent Vehicles Technology	PCC	45	0	0	45	90	**3**	40	60	100
4.		Professional Elective – V	PEC	45	0	0	45	90	**3**	40	60	100
5.		Professional Elective – VI	PEC	45	0	0	45	90	**3**	40	60	100
EMPLOYABILITY ENHANCEMENT COURSE												
6.	24AUP71	Project Work Phase - I	EEC	0	0	60	0	60	**2**	60	40	100
TOTAL				**225**	**0**	**60**	**225**	**510**	**17**	**600**		

SEMESTER VIII												
S. No.	Course Code	Course Title	Category	Periods / Semester					Credit	Max. Marks		
				L	T	P	SL	Tot		CA	ES	Tot
EMPLOYABILITY ENHANCEMENT COURSE												
1.	24AUP81	Project Work Phase – II	EEC	0	0	240	0	240	**8**	60	40	100
TOTAL				**0**	**0**	**240**	**0**	**240**	**8**	**100**		
TOTAL CREDITS									**165**			

TOTAL NUMBER OF CREDITS TO BE EARNED FOR AWARD OF THE DEGREE = 165

Note: HSMC - Humanities and Social Sciences including Management courses, BSC – Basic Science Courses, ESC – Engineering Science Courses, PCC – Professional core courses, PEC - Professional Elective courses, OEC – Open Elective courses, EEC – Employability Enhancement Courses & MC - Mandatory courses.

	HUMANITIES, SOCIAL SCIENCE AND MANAGEMENT COURSES (HSMC)												
S. No.	**Course Code**	**Course Title**	**Semester**	**Periods / Semester**					**Credit**	**Max. Marks**		
				L	**T**	**P**	**SL**	**Tot**		**CA**	**ES**	**Tot**
1.	24ENT19	Professional Communication	I	45	0	0	45	90	**3**	40	60	100
2.	24GET19	Heritage of Tamils	I	15	0	0	15	30	**1**	40	60	100
3.	24GET29	Tamils and Technology	II	15	0	0	15	30	**1**	40	60	100
4.	24ENP29	Professional Communication Laboratory	II	0	0	30	0	30	**1**	60	40	100
5.	24GET49	Universal Human values	IV	45	0	0	45	90	**3**	40	60	100
6.	24GET69	Entrepreneurship Development	VI	45	0	0	45	90	**3**	40	60	100
7.	24GET79	Project Management	VII	45	0	0	45	90	**3**	40	60	100
		TOTAL		**210**	**0**	**30**	**210**	**450**	**15**			

	BASIC SCIENCE COURSES (BSC)											
S. No.	**Course Code**	**Course Title**	**Semester**	**Periods / Semester**					**Credit**	**Max. Marks**		
				L	**T**	**P**	**SL**	**Tot**		**CA**	**ES**	**Tot**
1.	24MAI19	Matrices and Calculus	I	30	15	30	45	120	**4**	50	50	100
2.	24PHI06	Applied Physics	I	45	0	30	45	120	**4**	50	50	100
3.	24MAI29	Probability and Statistics	II	30	15	30	45	120	**4**	50	50	100
4.	24CHI07	Applied Chemistry	II	45	0	30	45	120	**4**	50	50	100
5.	24MAT36	Optimization Techniques	III	45	15	0	60	120	**4**	40	60	100
6.	24MAT46	Numerical and Computational Techniques	IV	45	15	0	60	120	**4**	40	60	100
		TOTAL		**240**	**60**	**120**	**300**	**720**	**24**			

	ENGINEERING SCIENCE COURSES(ESC)											
S. No.	**Course Code**	**Course Title**	**Semester**	**Periods / Semester**					**Credit**	**Max. Marks**		
				L	**T**	**P**	**SL**	**Tot**		**CA**	**ES**	**Tot**
1.	24ITT16	Programming for Problem Solving	I	45	0	0	45	90	**3**	40	60	100
2.	24ITP16	Programming for Problem Solving Laboratory	I	0	0	30	0	30	**1**	60	40	100
3.	24GEP17	Manufacturing Practices Laboratory	I	0	0	30	0	30	**1**	60	40	100
4.	24CST26	Python Programming	II	45	0	0	45	90	**3**	40	60	100
5.	24EET06	Basics of Electrical and Electronics Engineering	II	45	0	0	45	90	**3**	40	60	100
6.	24CSP29	Python Programming Laboratory	II	0	0	30	0	30	**1**	60	40	100
		TOTAL		**135**	**0**	**90**	**135**	**360**	**12**			

	EMPLOYABILITY ENHANCEMENT COURSES (EEC)											
S. No.	**Course Code**	**Course Title**	**Semester**	**Periods / Semester**					**Credit**	**Max. Marks**		
				L	**T**	**P**	**SL**	**Tot**		**CA**	**ES**	**Tot**
1.	24SSP19	Aptitude and Coding Skills - I	I	0	0	30	0	30	**1**	60	40	100
2.	24SSP29	Aptitude and Coding Skills - II	II	0	0	30	0	30	**1**	60	40	100
3.	24SDP39	Soft Skills Development - III	III	0	0	30	0	30	**1**	60	40	100
4.	24SDP49	Soft Skills Development - IV	IV	0	0	30	0	30	**1**	60	40	100
5.	24AUP43	Technical Presentation	IV	0	0	30	0	30	**1**	60	40	100
6.	24AUP53	Industry Oriented Course - I	V	0	0	0	0	0	**1**	100	-	100
7.	24AUP54	Internship – I*	V	0	0	0	0	0	**1**	100	-	-
8.	24AUP63	Industry Oriented Course - II	VI	0	0	0	0	0	**1**	100	-	100
9.	24AUP64	Mini Project	VI	0	0	60	0	60	**2**	60	40	100
10.	24AUP71	Project Work Phase – I	VII	0	0	60	0	60	**2**	60	40	100
11.	24AUP81	Project Work Phase – II	VIII	0	0	240	0	240	**8**	60	40	100
			TOTAL	**0**	**0**	**510**	**0**	**510**	**20**			

	PROFESSIONAL CORE COURSES (PCC)												
S. No.	Course Code	Course Title	Semester	Periods / Semester					Credit	Max. Marks		
				L	T	P	SL	Tot		CA	ES	Tot
1.	24MET16	Engineering Drawing	I	30	0	60	30	120	**4**	40	60	100
2.	24MET26	Design Thinking	II	30	0	0	30	60	**2**	40	60	100
3.	24AUP21	Computer Aided Drawing Laboratory	II	0	0	30	0	30	**1**	60	40	100
4.	24AUT31	Automotive Thermal Engineering	III	45	0	0	45	90	**3**	40	60	100
5.	24AUT32	Automotive Chassis	III	45	0	0	45	90	**3**	40	60	100
6.	24MET36	Engineering Mechanics	III	45	15	0	60	120	**4**	40	60	100
7.	24MET37	Fluid Mechanics and Machinery	III	45	0	0	45	90	**3**	40	60	100
8.	24SFT36	Manufacturing Processes	III	45	0	0	45	90	**3**	40	60	100
9.	24MEP36	Fluid Mechanics and Machinery Laboratory	III	0	0	45	0	45	**1.5**	60	40	100
10.	24SFP36	Manufacturing Processes Laboratory	III	0	0	45	0	45	**1.5**	60	40	100
11.	24MEP37	Design Studio - I	III	0	0	30	0	30	**1**	100	-	100
12.	24AUT41	Engines and Transmission Systems	IV	45	0	0	45	90	**3**	40	60	100
13.	24AUT42	Vehicle Body Engineering	IV	45	0	0	45	90	**3**	40	60	100
14.	24MET46	Strength of Materials	IV	45	15	0	60	120	**4**	40	60	100
15.	24AUP41	Automotive Components Laboratory	IV	0	0	45	0	45	**1.5**	60	40	100
16.	24MEP46	Strength of Materials Laboratory	IV	0	0	45	0	45	**1.5**	60	40	100
17.	24MEP47	Design Studio - II	IV	0	0	30	0	30	**1**	100	-	100
18.	24AUT51	Mechanics of Machines	V	45	15	0	60	120	**4**	40	60	100
19.	24AUT52	Automotive Fuels and Lubricants	V	45	0	0	45	90	**3**	40	60	100
20.	24AUT53	Automotive Electrical and Electronics	V	45	0	0	45	90	**3**	40	60	100
21.	24AUT54	Automotive Vehicle Safety	V	45	0	0	45	90	**3**	40	60	100
22.	24AUI51	Automotive Engine and Chassis Components Design	V	45	0	30	45	120	**4**	50	50	100
23.	24AUP51	Automotive Fuels and Lubricants Laboratory	V	0	0	45	0	45	**1.5**	60	40	100
24.	24AUP52	Automotive Electrical and Electronics Laboratory	V	0	0	45	0	45	**1.5**	60	40	100
25.	24AUT61	Vehicle Maintenance and Testing	VI	45	0	0	45	90	**3**	40	60	100
26.	24AUP61	Vehicle Maintenance and Reconditioning Laboratory	VI	0	0	45	0	45	**1.5**	60	40	100
27.	24AUP62	Engine Performance and Emission Testing Laboratory	VI	0	0	45	0	45	**1.5**	60	40	100
28.	24AUT71	Electric and Hybrid Vehicles	VII	45	0	0	45	90	**3**	40	60	100
29.	24AUT72	Intelligent Vehicles Technology	VII	45	0	0	45	90	**3**	40	60	100
			TOTAL	**780**	**45**	**540**	**825**	**2190**	**73**			

VERTICAL-1	VERTICAL-2	VERTICAL-3	VERTICAL-4	VERTICAL-5	VERTICAL-6
Thermal Engineering	**Manufacturing Engineering**	**Automotive Design**	**Automotive Integrated Technology**	**Automotive Management**	**Electric Vehicle**
Advanced Theory of I.C. Engines	Material Science and Metallurgy	Finite Element Analysis	Fuel Cells and Applications	Engine and Vehicle Management System	Electric Two and Three Wheeler
Automotive Pollution and Control	Automotive Fabrication Processes	Vehicle Dynamics	Vehicle Control Systems	Transport Management	Battery Technology
Alternative Fuels and Energy Systems	Additive Manufacturing	Vehicle Architecture	Special Purpose Vehicles	Vehicle Dealership Management	Motors and Drives
Automotive Air-Conditioning	Lean Manufacturing	Robotics and Automation	Automotive Instrumentation	Ergonomics in Automotive Design	Sensors and Actuators
Combustion Thermodynamics and Heat Transfer	Computer Aided Manufacturing	Drone Technologies	Autonomous Vehicle Technology	Noise, Vibration and Harshness	Electric Vehicle Maintenance
Advanced Internal Combustion Engines	Production Planning and Control	Automotive Aerodynamics	Artificial Intelligence for Automobiles	Value Engineering	Connected Cars and ADAS

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Department	Department of Automobile Engineering	
Programme	B.E – Automobile Engineering	

List of Electives

VERTICAL-1: Thermal Engineering

Sl.No.	Course Code	Course Name	Specialization	Category	Periods / Semester				Credit	Maximum Marks		
					L	T	P	SL	C	CA	ES	Total
1.	24AUE01	Advanced Theory of I.C. Engines	S1	PEC	45	0	0	45	3	40	60	100
2.	24AUE02	Automotive Pollution and Control	S1	PEC	45	0	0	45	3	40	60	100
3.	24AUE03	Alternative Fuels and Energy Systems	S1	PEC	45	0	0	45	3	40	60	100
4.	24AUE04	Automotive Air-Conditioning	S1	PEC	45	0	0	45	3	40	60	100
5.	24AUE05	Combustion Thermodynamics and Heat Transfer	S1	PEC	45	0	0	45	3	40	60	100
6.	24AUE06	Advanced Internal Combustion Engines	S1	PEC	45	0	0	45	3	40	60	100

VERTICAL-2: Manufacturing Engineering

Sl.No.	Course Code	Course Name	Specialization	Category	Periods / Semester				Credit	Maximum Marks		
					L	T	P	SL	C	CA	ES	Total
1.	24AUE07	Material Science and Metallurgy	S2	PEC	45	0	0	45	3	40	60	100
2.	24AUE08	Automotive Fabrication Processes	S2	PEC	45	0	0	45	3	40	60	100
3.	24AUE09	Additive Manufacturing	S2	PEC	45	0	0	45	3	40	60	100
4.	24AUE10	Lean Manufacturing	S2	PEC	45	0	0	45	3	40	60	100
5.	24AUE11	Computer Aided Manufacturing	S2	PEC	45	0	0	45	3	40	60	100
6.	24AUE12	Production Planning and Control	S2	PEC	45	0	0	45	3	40	60	100

VERTICAL-3: Automotive Design

Sl.No.	Course Code	Course Name	Specialization	Category	Periods / Semester				Credit	Maximum Marks		
					L	T	P	SL	C	CA	ES	Total
1.	24AUE13	Finite Element Analysis	S3	PEC	45	0	0	45	3	40	60	100
2.	24AUE14	Vehicle Dynamics	S3	PEC	45	0	0	45	3	40	60	100
3.	24AUE15	Vehicle Architecture	S3	PEC	45	0	0	45	3	40	60	100
4.	24AUE16	Robotics and Automation	S3	PEC	45	0	0	45	3	40	60	100
5.	24AUE17	Drone Technologies	S3	PEC	45	0	0	45	3	40	60	100
6.	24AUE18	Automotive Aerodynamics	S3	PEC	45	0	0	45	3	40	60	100

VERTICAL-4: Automotive Integrated Technology												
Sl.No.	Course Code	Course Name	Specialization	Category	Periods / Semester				Credit	Maximum Marks		
					L	T	P	SL	C	CA	ES	Total
1.	24AUE19	Fuel Cells and Applications	S4	PEC	45	0	0	45	3	40	60	100
2.	24AUE20	Vehicle Control Systems	S4	PEC	45	0	0	45	3	40	60	100
3.	24AUE21	Special Purpose Vehicles	S4	PEC	45	0	0	45	3	40	60	100
4.	24AUE22	Automotive Instrumentation	S4	PEC	45	0	0	45	3	40	60	100
5.	24AUE23	Autonomous Vehicle Technology	S4	PEC	45	0	0	45	3	40	60	100
6.	24AUE24	Artificial Intelligence for Automobiles	S4	PEC	45	0	0	45	3	40	60	100

VERTICAL-5: Automotive Management												
Sl.No.	Course Code	Course Name	Specialization	Category	Periods / Semester				Credit	Maximum Marks		
					L	T	P	SL	C	CA	ES	Total
1.	24AUE25	Engine and Vehicle Management System	S5	PEC	45	0	0	45	3	40	60	100
2.	24AUE26	Transport Management	S5	PEC	45	0	0	45	3	40	60	100
3.	24AUE27	Vehicle Dealership Management	S5	PEC	45	0	0	45	3	40	60	100
4.	24AUE28	Ergonomics in Automotive Design	S5	PEC	45	0	0	45	3	40	60	100
5.	24AUE29	Noise, Vibration and Harshness	S5	PEC	45	0	0	45	3	40	60	100
6.	24AUE30	Value Engineering	S5	PEC	45	0	0	45	3	40	60	100

VERTICAL-6: Electric Vehicle												
Sl.No.	Course Code	Course Name	Specialization	Category	Periods / Semester				Credit	Maximum Marks		
					L	T	P	SL	C	CA	ES	Total
1.	24AUE31	Electric Two and Three Wheeler	S6	PEC	45	0	0	45	3	40	60	100
2.	24AUE32	Battery Technology	S6	PEC	45	0	0	45	3	40	60	100
3.	24AUE33	Motors and Drives	S6	PEC	45	0	0	45	3	40	60	100
4.	24AUE34	Sensors and Actuators	S6	PEC	45	0	0	45	3	40	60	100
5.	24AUE35	Electric Vehicle Maintenance	S6	PEC	45	0	0	45	3	40	60	100
6.	24AUE36	Connected Cars and ADAS	S6	PEC	45	0	0	45	3	40	60	100

MANDATORY COURSE – I, II & III												
S. No.	Course Code	Course Title	Category	Periods / Semester					Credit	Max. Marks		
				L	T	P	SL	Tot		CA	ES	Tot
1.	24MCP09	Yoga for Stress Management	MC	0	0	0	0	0	0	-	-	-
2.	24MCT01	Constitution of India	MC	60	0	0	0	60	0	100	-	100
3.	24MCT02	Environmental Science and Sustainability	MC	60	0	0	0	60	0	100	-	100
4.	24MCT03	Introduction to Gender Studies	MC	60	0	0	0	60	0	100	-	100
5.	24MCT04	Life Science for Engineers	MC	60	0	0	0	60	0	100	-	100
6.	24MCT05	Industrial Safety	MC	60	0	0	0	60	0	100	-	100
7.	24MCT06	Essence of Indian Knowledge System	MC	60	0	0	0	60	0	100	-	100
8.	24MCT07	Elements of Literature	MC	60	0	0	0	60	0	100	-	100
9.	24MCT08	Disaster Management	MC	60	0	0	0	60	0	100	-	100

Summary										
Name of the Programme: B.E Automobile Engineering										
CATEGORY	**I**	**II**	**III**	**IV**	**V**	**VI**	**VII**	**VIII**	**TOTAL CREDITS**	**%**
HSMC	4	2	-	3	-	3	3	-	**15**	**9.09**
BSC	8	8	4	4	-	-	-	-	**24**	**14.54**
ESC	5	7	-	-	-	-	-	-	**12**	**7.27**
PCC	4	3	20	14	20	6	6	-	**73**	**44.24**
PEC	-	-	-	3	3	6	6	-	**18**	**10.9**
OEC	-	-	-	-	-	3	-	-	**3**	**1.81**
EEC	1	1	1	2	2	3	3	8	**20**	**12.12**
MC	-	✓	-	-	✓	✓	-	-	**-**	**-**
Total	**22**	**21**	**24**	**26**	**25**	**21**	**18**	**8**	**165**	**100**