

**13. Courses of Study and Scheme of Assessment
ME AUTOMOTIVE ENGINEERING**

**(2021 REGULATIONS)
(Minimum No. of credits to be earned: 70)**

Course Code	Course Title	Hours/Week			Credits	Maximum Marks			CAT
		Lecture	Tutorial	Practical		CA	FE	Total	
I SEMESTER									
21AE01	Applied Numerical Methods	3	1	0	4	50	50	100	PC
21AE02	Vehicle Development Process	3	0	0	3	50	50	100	PC
21AE03	Automotive Control System	3	1	0	4	50	50	100	PC
21AE04	Automotive Embedded System	3	0	0	3	50	50	100	PC
21AE05	Automotive Power Train	3	0	0	3	50	50	100	PC
21AE06	Research Methodology and IPR	2	0	0	2	50	50	100	RMC
21AE72	Audit Course – I	2	0	0	Grade	100	0	100	MC
21AE51	Automotive Systems Laboratory	0	0	4	2	50	50	100	PC
21AE52	CAE Laboratory	0	0	4	2	50	50	100	PC
Total 29hrs		19	2	8	23	500	400	900	
II SEMESTER									
21AE07	Design of Automotive Systems Structures	3	1	0	4	50	50	100	PC
21AE08	Dynamics of Road Vehicles	3	1	0	4	50	50	100	PC
21AE__	Professional Elective – I	3	0	0	3	50	50	100	PE
21AE__	Professional Elective – II	3	0	0	3	50	50	100	PE
21AE__	Professional Elective – III	3	0	0	3	50	50	100	PE
21AE82	Audit Course – II	2	0	0	Grade	100	0	100	MC
21AE61	Modeling and Simulation Laboratory	0	0	4	2	50	50	100	PC
21AE62	Vehicle Testing Laboratory	0	0	4	2	50	50	100	PC
21AE63	Industrial visit and Technical Seminar	0	0	4	2	50	50	100	EEC
Total 31hrs		17	2	12	23	500	400	900	
III SEMESTER									
21AE__	Professional Elective – IV	3	0	0	3	50	50	100	PE
21AE__	Open Elective	3	0	0	3	50	50	100	OE
21AE71	Project Work I	0	0	12	6	50	50	100	EEC
Total 18hrs		6	0	12	12	150	150	300	
IV SEMESTER									
21AE81	Project Work II	0	0	24	12	50	50	100	EEC
Total 24 hrs		0	0	24	12	50	50	100	

PROFESSIONAL ELECTIVE THEORY COURSES (Four to be opted)

Course Code	Course Title	Hours / Week			Credits	Maximum Marks			CAT
		Lecture	Tutorial	Practical		CA	FE	Total	
DESIGN STREAM									
21AE11	Engine Component Design	3	0	0	3	50	50	100	PE
21AE12	Chassis Component Design	3	0	0	3	50	50	100	PE
21AE13	Automotive NVH	3	0	0	3	50	50	100	PE
21AE14	Mechanics of Composite Material	3	0	0	3	50	50	100	PE
21AE15	Automotive Product Life Cycle Management	3	0	0	3	50	50	100	PE
21AE16	Aerodynamics of Road vehicles	3	0	0	3	50	50	100	PE
21AE17	Computational Fluid Dynamics	3	0	0	3	50	50	100	PE
MANUFACTURING STREAM									
21AE21	Additive Manufacturing	3	0	0	3	50	50	100	PE
21AE22	Design for Manufacture and Assembly	3	1	0	4	50	50	100	PE
21AE23	Green Materials	3	0	0	3	50	50	100	PE
21AE24	Smart Manufacturing	3	0	0	3	50	50	100	PE
ELECTRIFICATION STREAM									
21AE31	Energy Storage Devices	3	0	0	3	50	50	100	PE
21AE32	xEV Design	3	0	0	3	50	50	100	PE
21AE33	Smart Charging Systems and Infrastructure	3	0	0	3	50	50	100	PE
21AE34	Power Electronics	3	0	0	3	50	50	100	PE
21AE35	Alternate Power Train	3	0	0	3	50	50	100	PE
21AE36	Fuel Cell Vehicles	3	0	0	3	50	50	100	PE
21AE37	Applied Automotive Control Theory	3	0	0	0	50	50	100	PE
INTELLIGENT VEHICLE TECHNOLOGY									
21AE41	Autonomous Vehicles and Connected Cars	3	0	0	3	50	50	100	PE
21AE42	Automotive Infotronics	3	0	0	3	50	50	100	PE
21AE43	Automotive Safety Systems	3	0	0	3	50	50	100	PE
21AE44	Transportation Management	3	0	0	3	50	50	100	PE
21AE45	Automotive Electronics	3	0	0	3	50	50	100	PE

* Indicated is the minimum number of credits to be earned by a student.

CAT – Category; PC – Professional Core; PE - Professional Elective; RMC- Research Methodology and IPR; EEC – Employability Enhancement Course; MC- Mandatory Course; OE – Open Elective; Grade – Completed / Not Completed