

13. Courses of Study and Scheme of Assessment

ME AUTOMOTIVE ENGINEERING

(2015 REGULATIONS)
(Minimum No. of credits to be earned: 72)

Course Code	Course Title	Hours/Week			Credits	Maximum Marks			CAT
		Lecture	Tutorial	Practical		CA	FE	Total	
I SEMESTER									
15AE01	Computational Mathematics	2	2	-	3	50	50	100	FC
15AE02	Automotive Sciences	3	-	-	3	50	50	100	FC
15AE03	Vehicle Development Process	3	-	-	3	50	50	100	PC
15AE04	Automotive Electrical and Electronic Systems	3	2	-	4	50	50	100	PC
15AE05	Automotive Chassis	3	-	-	3	50	50	100	PC
15AE51	Object Computing and Data Structures Laboratory	-	-	4	2	100	-	100	PC
15AE61	Industry Visit & Technical Seminar	-	-	2	1	100	-	100	EEC
Total 24 Hrs		14	4	6	19	450	250	700	
II SEMESTER									
15AE06	Automotive Power Train	3	-	-	3	50	50	100	PC
15AE07	Dynamics of Road Vehicles	3	-	-	3	50	50	100	PC
15AE08	Automotive Instrumentation and Testing	3	-	-	3	50	50	100	PC
15AE09	Electronic Engine Management System	3	-	-	3	50	50	100	PC
15AE10	Design of Automotive Systems	3	-	-	3	50	50	100	PC
15____	Professional Elective – 1	3	-	-	3	50	50	100	PE
15AE52	Automotive Computer Aided Engineering Laboratory	-	-	4	2	100	-	100	PC
Total 22 Hrs		18	-	4	20	400	300	700	
III SEMESTER									
15____	Professional Elective – 2	3	-	-	3	50	50	100	PE
15____	Professional Elective – 3	3	-	-	3	50	50	100	PE
15____	Professional Elective – 4	3	-	-	3	50	50	100	PE
15____	Professional Elective – 5	3	-	-	3	50	50	100	PE
15____	Professional Elective – 6	3	-	-	3	50	50	100	PE
15AE__	Elective Laboratory	-	-	2	1	100	-	100	EEC
15AE71	Project Work I	-	-	6	3	100	-	100	EEC
Total 23 Hrs		15	-	8	19	450	250	700	
IV SEMESTER									
15AE72	Project Work II	-	-	28	14	50	50	100	EEC
ELECTIVE THEORY COURSES(Six to be opted)									
Automotive Safety									
15AE21	Automotive Electronics	3	2	-	4	50	50	100	PE
15AE22	Modeling of Dynamic Systems	3	-	-	3	50	50	100	PE
15AE23	Automotive Infotronics	3	-	-	3	50	50	100	PE
15AE24	Automotive Ergonomics and Safety	3	-	-	3	50	50	100	PE
15AE25	Mechatronic System Design	3	-	-	3	50	50	100	PE
15AE26	Automotive Embedded Systems	3	-	-	3	50	50	100	PE
Design Engineering									
15AE31	Simulation of IC Engines	3	-	-	3	50	50	100	PE
15AE32	Finite Element Analysis for Automotive Engineers	3	-	-	3	50	50	100	PE
15AE33	Sketching and Geometric Modeling for Automotive Styling	3	-	-	3	50	50	100	PE
15AE34	Computational Fluid Dynamics	3	-	-	3	50	50	100	PE
15AE35	Automatic Transmission	3	-	-	3	50	50	100	PE
15AE36	Design for Manufacture and Assembly	3	2	-	4	50	50	100	PE
15AE37	Automotive Materials	3	-	-	3	50	50	100	PE
Automotive Energy System									
15AE41	Electric and Hybrid Vehicles	3	-	-	3	50	50	100	PE
15AE42	Electric Drives and Controls for Electric Drive Vehicles	3	-	-	3	50	50	100	PE
15AE43	Alternate Fuels and Technologies	3	-	-	3	50	50	100	PE

Vehicle Performance									
15AE46	Emission, Noise, Vibration and Harshness Control	3	-	-	3	50	50	100	PE
15AE47	Aerodynamics of Road Vehicles	3	-	-	3	50	50	100	PE
Others									
15AE81	Special Vehicles	3	-	-	3	50	50	100	PE
15AE82	Vehicle Component Manufacturing	3	-	-	3	50	50	100	PE
15AE83	Economics for Engineers	3	-	-	3	50	50	100	PE
15AE84	Automotive Product Lifecycle Management	3	-	-	3	50	50	100	PE
15AE85	Quality Assurance And Reliability	3	-	-	3	50	50	100	PE
15AE86	Innovation Management	3	-	-	3	50	50	100	PE
15AE87	Electrochemistry of Fuel Cells	3	-	-	3	50	50	100	PE
ELECTIVE LABORATORY COURSES (One to be opted)									
15AE53	Automotive Styling and Design Laboratory	-	-	2	1	100	-	100	PC
15AE54	Automotive Embedded Systems Laboratory	-	-	2	1	100	-	100	PC
15AE55	Automobile Engineering Laboratory	-	-	2	1	100	-	100	PC

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

CAT – Category; FC – Foundation Course; PC – Professional Core; PE - Professional Elective

EEC – Employability Enhancement Course

ONE CREDIT COURSES

15AK01 Characterization of Turbo Machinery Using CFD
15AK02 Characterization of Heat Exchangers Using CFD

SCIENCE ELECTIVES

15ID01 Micro Electro Mechanical Systems (MEMS)
15ID02 Sensors for Engineering Applications
15ID03 Laser Processing of Materials
15ID04 Plasma Technology
15ID05 Nanosensor and its Applications
15ID06 Nano Magnetism and Spintronics
15ID07 Corrosion Science and Engineering
15ID08 Instrumental Methods of Chemical Analysis
15ID09 Polymer Science and Technology
15ID10 Nanomaterials and Nanotechnology
15ID11 Thin Film Technology

HUMANITIES AND LANGUAGES ONE CREDIT COURSES

15OK01 Research Writing in Engineering Sciences
15OK02 Indian Ethos and Human Values
15OK03 Personality Development
15OK04 Financial Accounting and Cost Accounting