IV Year I Semester	L	Т	Р	С
Code: 17EC753	0	0	3	2

AUTOMOTIVE ELECTRONICS DESIGN USING EMBEDDED SYSTEMS (Skill Course Lab-II)

UNIT-1 : Engine management systems : Introduction - components for engine management system - Open loop and closed loop control system – Engine cranking and warm up control – Acceleration, deceleration and idle speed control.

UNIT-2: Injection and ignition systems : Feedback carburetor system–Throttle body injection and multi point fuel injection system– Injection system controls –Advantage of electronic ignition systems–Types of solid state ignition systems and their principles of operation – Electronic spark timing control, Exhaust emission control engineering.

UNIT-3 : Automotive control mechanism :Electronic management of chassis systems, Vehicle motion control, anti – lock braking system, Tyre pressure monitoring system, Collision avoidance system, Traction control system.

UNIT-4 : Automotive Electronics systems : Active suspension system Keyless entry system and Electronic power steering system, Electronic controls - lighting design - Horn – Warning systems – Brake actuation warning systems, Infotainment

UNIT-5: Monitoring of Automotive systems : Speed warning systems, oil pressure warning system, engine over heat warning system, air pressure warning system, safety devices-Wind shield wiper and washer, VANET

UNIT-6 : Sensors for transportation : Basic sensor arrangement–Types of sensors, Oxygen Sensor –Cranking Sensor –Position Sensors , Engine cooling water temperature Sensor–Engine oil pressure Sensor–Fuel metering –Vehicle speed sensor and detonation sensor