

8 Hours **ADVANCED** Training on

Engine Management System - Controls & Diagnostics

Sensors & actuators



Controls & diagnostics

Brief 1D GT-Suite simulation



IST Pvt Ltd

EV, HEV & Engine Development
Staff Augmentation
Corporate Training

Training Fees

Category	Training Fees per participant (Rs.)
Company Sponsored	6,500.00
Individual Sponsored	5,000.00

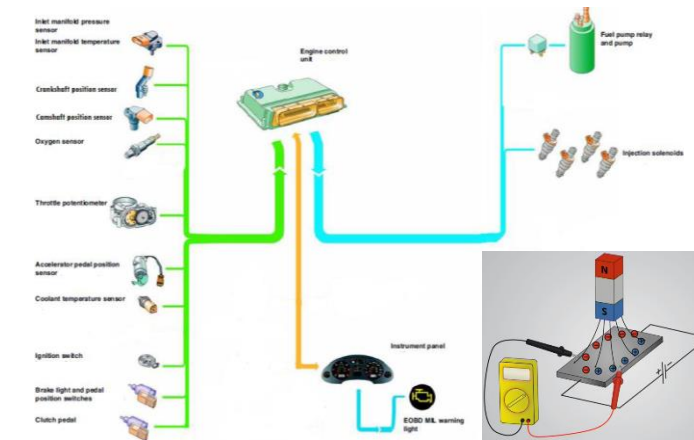
For registration, please contact us:

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This advanced training module is understanding about various sensors, actuators, controls and diagnostics about air system and fuel injection system. Many real problems will be considered. An outline of the agenda is mentioned below:

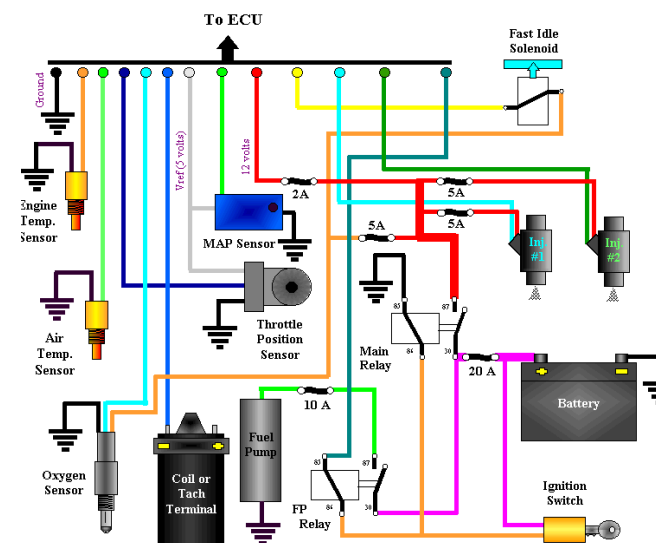
□ Sensors

- ✓ Various sensors in air system and fuel system, and their working principle
- ✓ Example - Intake manifold absolute pressure, intake air temperature, crankshaft position, camshaft position, oxygen/lambda, intake throttle position, exhaust throttle position, accelerator pedal position, coolant temperature, mass air flow, knock, vehicle speed, clutch pedal position



□ Actuators

- ✓ Examples -- Fuel injector (fuel mass, injection timing, injection pressure, injection duration, multi pulse-pilot, main, post), throttle plate, idle air control valve, cut-off fuel valve, ignition timing, WG valve, VG position, bypass valve



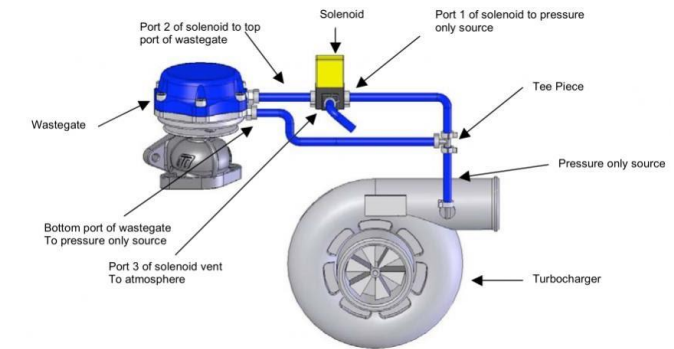
Who Should Attend?

- Working Professionals/ Professors/ Students/ Scholars who are interested for comprehensive understanding of engine controls and diagnostics related staffs
- Engine OEMs/Consulting Companies/Start-ups

Agenda Overview

□ Controls

- ✓ Intake throttle, idle speed, EGR & VGT, WG, VVT, closed crankcase ventilation, secondary air injection, cold start strategy, fuel injection pulse width, fuel quantity/governor, fuel pressure, injection timing, under changed ambient temperature & altitude



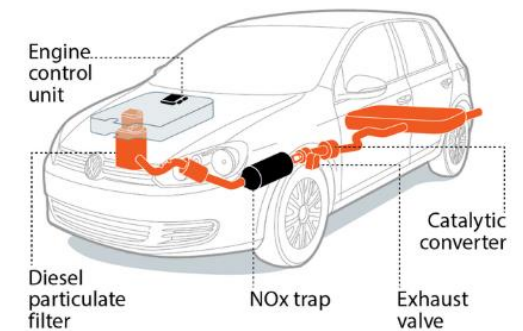
□ Diagnostics

- ✓ Purpose of OBD-I & OBD-II, basic features. Catalyst efficiency, monitoring, misfire, evaporative emissions leak, EGR system, engine start problem, fuel trim/ injector drift, injector testing, kinked fuel line, rough idle, fuel leak, vacuum leak, sensor problem, air leakage, airfilter clogging



□ Other important topics

- ✓ Auxiliary emissions control device (AECD), Defeat device (DD) for engine protection
- ✓ Regulations for AECD and DD
- ✓ Examples



Trainer

- Over 19 years of industrial experience in diesel, gasoline, gas engines; HEV & EV; and aircraft engines
- 1D simulation domain – engine performance, cooling, HVAC, HEV & EV drivetrain, battery, lubrication, acoustics, hydraulics, cranktrain, and valvetrain
- Worked with GE, Cummins, ESI, MTU (Rolls-Royce), IST
- Conducting training for 10 years
- GT-SUITE user for 14 years
- M.Tech. from IIT Kharagpur

