

J C Bose University of Science & Technology, YMCA, Faridabad
Department of Mechanical Engineering

Description of BOSCH COE in Automotive Engineering at University

Automotive Service Solutions (AS) is a part of Automotive Aftermarket business division in India. AS provide complete service solution for automotive workshops by offering latest workshop/Diagnostic equipment and giving excellent service and training support. AS contributing to develop the student's skills and knowledge in advanced automotive systems and services by various training and joint certification programs through Bosch training centers and Joint certification training setup at Institutions across India. One such center is setup at J C Bose University of Science & Technology, YMCA, Faridabad. It has following equipment:

1. EPS 625 Diesel Calibration Test Bench
2. EPS 205 – C R Injection test bench
3. Set of Stage 3 tools
4. Adapter + Dial Gauges + Vernier caliper + Micrometer
5. EPS 100 - Injector tester (Mechanical)
6. Rack for storage
7. Work Benches for Diesel and AEL workshop (work station tables)
8. Compressor (ELGI)
9. 4 POST lift for vehicle
10. Gear Box + 2 W engine
11. CRDI – bench mounted engine for hands on practice
12. MPFI – bench mounted engine for hands on practice
13. Cut Section engine for demo
14. Battery testing equipment's
15. Auto Electrical Test Bench – 3 Phase



PROGRAM OBJECTIVES:

- Prepare students for industry oriented learning through tailor made training programs
- Knowledge sharing on Bosch advanced automotive systems
- Advanced Training modules for students in Bosch Training centers
- Help setting up Automotive Service Solutions lab
- Train the trainer program for lab technicians
- Join Certification Centre

Bosch offering the below mentioned training program under Joint certification Program.

S.No.	Program Title	Training Content
1	Basic course on Diesel fuel Injection Systems	<ul style="list-style-type: none"> ➤ Diesel Engine Basics, theory ➤ Diesel Engine Basics, Familiarization on Diesel Engine practice ➤ Fuel Injection : Basics theory ➤ Pumps Disassembly / Assembly Practice Inline Pumps ➤ Pumps Disassembly / Assembly Practice Rotary Pumps ➤ Inline Pumps Calibration ➤ Rotary Pumps Calibration ➤ Injector working principle , theory ➤ Injector Disassembly / Assembly Practice

		<ul style="list-style-type: none"> ➤ Injector Testing ➤ Sum up , Refresher , Practice ➤ Test (theory & Practical)
2	Advanced course Diesel Fuel Injection Systems	<ul style="list-style-type: none"> ➤ Understanding of difference between Diesel Fuel Injection and Common Rail System ➤ Working principle of and function of Common Rail : theory ➤ Familiarization of CR System components and its functions ➤ Structure and function of Common Rail Pump , assembly , Dis-assembly ➤ Structure and function of Common Rail Injector, assembly - Dis-assembly ➤ CR Injector Testing procedures and deliberation of test steps ➤ Familiarization of system on vehicle with practical ➤ Sum up , Refresher , Practice ➤ Test (theory & Practical)
3	Auto electrical systems (Starter , Alternator & Batteries)	<ul style="list-style-type: none"> ➤ Basics of Auto electrical system, Introduction ➤ Working Principle of Starter ➤ Working Principle of Alternator ➤ Removal and fitment of Alternator, Starter Motor on vehicle ➤ Working Principle of Battery ➤ Removal , Charging procedure and fitment of Battery ➤ Assembly , Dis-assembly practice of starter Motor ➤ Visual Inspection and testing of starter components ➤ Assembly , Dis-assembly practice of Alternator ➤ Visual Inspection and testing of Alternator components ➤ Testing and inspection of Starter, Alternator on test bench ➤ BAT 131 testing on vehicle Battery , Alternator check ➤ Sum up , Refresher , Practice ➤ Test (theory & Practical)
4	Vehicle Diagnostics basics (OBD) & System diagnostics	<ul style="list-style-type: none"> ➤ Basics of Gasoline Engines ➤ Basics of electronic Control system , sensors , CU, Actuators ➤ Familiarization of sensors, position of sensors on vehicles, working principles etc.

		<ul style="list-style-type: none"> ➤ Diagnostic Basics, Malfunction Indications ➤ Practice on vehicle (simulation of error , identification)Diagnose different systems ➤ Sum up , Refresher , Practice ➤ Test (theory & Practical) Actuator testing ➤ Signals capturing through oscilloscope
5	Vehicle Air-conditioning System and Functions	<ul style="list-style-type: none"> ➤ Basic working principle of car AC systems ➤ Different AC refrigerant in use , familiarization ➤ Trouble shooting of AC System, leak detection etc. ➤ AC Gas recharging cycle & User training on AC recycling machine ➤ Sum up , Refresher , Practice ➤ Test (theory & Practical)

