



# CENTRE FOR AUTOMOTIVE RESEARCH AND VEHICLE ENGINEERING

## JOINT CERTIFICATION CENTRE



### KCG - BOSCH Training Brochure

#### **OBJECTIVES**

- To provide hands-on experience on technologies that bridges the industry-academia gap.
- To understand the Bosch auto product test equipments.
- To gain knowledge and analyze various automobile sensors, actuators and diagnostics in vehicle injection system through Bosch advanced course model.

#### **VISION OF THE DEPARTMENT**

The Department of Automobile Engineering aims at achieving academic excellence in engineering, technology and research by providing unique educational experience which enables the students to cater to the needs of the society.

#### MISSION OF THE DEPARTMENT

- Impart effectual teaching learning and training in automobile domain
- Equip with State-of-the-art technology and equipment to manufacture automobile components
- Encourage research relevant to automotive engineering technology for the advantage of the society
- Inculcate engineering methods, knowledge and professional standards in automobile engineering.

#### INFRASTRUCTURE IN THE TRAINING CENTRE

- Battery Charger
- BML 2415, Battery Tester- BAT 131, Battery Load Tester-BLT 301
- Auto Electrical Test bench -AETB 03
- ECU Scanner KTS 590
- Air Conditioning Service Equipment ACS261
- Starter and Alternator
- ESI Diagnosis software
- EPS 205



#### TRAINING PROGRAMS FEES STRUCTURE

Test Equipment	Course Code	Type of Course	Course Title	Duration (Days)	Training Fee (INR)/ + Service Tax as applicable/ Participant/day
AETB	AEL	Basic	Automotive Electrical - AETB 03	2 Days	1000
	ВВ	Basic	Training on Automotive Battery - AETB 03	1 Day	1000
KTS	EEM+BCS	Basic	Electrical and Electronic Diagnostics- KTS 590	2 Days	1000
	GFI	Basic	Gasoline Fuel Injection - KTS 590	2 Days	1000
	MTS&A	Advanced	Measurement & Testing of Sensors & Actuators - KTS 590	2 Days	1000
	BCS-1	Basic	Training on Vehicle Diagnostics - KTS 590	2 Days	1000
ACS	1 AC & HVAC	Basic	Fluid Exchange - ACS 261	2 Days	1000
	ACS	Basic	Vehicle Air-conditioning Systems and Functions - ACS 261	1 Day	1000
CR	CR	Advanced	CR Injectors and Diagnosis - EPS 205	2 Days	1500









**Battery Charger** 

Alternator

**Battery Load Tester** 

**Battery Tester** 

### Course on Common Rail Injectors and Diagnosis (EPS 205)

#### **Objective**

To understand the working of advanced diesel fuel injection system in vehicles.

#### **Course Outcome**

The participants of CR Injectors and Diagnosis will be able to

- Understand different type of CR injectors and CR Fuel injection system.
- Diagnosis the injection system for fuel Leakage, Pressure and Temperature.

#### **Course Content**

 Diesel engine basics and working principle of diesel fuel system (inline, distributor and rail).

### Course on Automotive Electrical Systems in Starter and Alternator—(AETB 03)

#### **Objective**

To understand the working of auto electrical systems in vehicles **Course Outcome** 

The participants of Auto Electrical Training will be able to

- Troubleshoot the starting system of a vehicle.
- · Troubleshoot the alternator of vehicle.
- Test and troubleshoot a battery system

#### **Course Content**

- Working principle of starter motor and alternator, testing of starter and alternator on test bench
- Batteries- construction, working principle, charging & testing using BAT 131.

#### Course on Vehicle Air-Conditioning system( ACS 261)

#### **Objective**

To understand the competent in carrying out quality service using Bosch ACS 261.

#### **Course Outcome**

The participants of Automotive Air-Conditioning training will be able to

- Recover the refrigerant from a vehicle.
- Understand the components in the air conditioning system of the vehicle.
- Conduct the vacuum test in the air conditioning system.
- Fill the compressor oil and refrigerant in the air conditioning system.

#### **Course Content**

- Basic working principles of car AC system.
- Functioning of air-conditioner and components such as switch, sensor, actuator and control unit.
- Testing of refrigerant charging on vehicle with help of ACS 261.
- Operating principles of Bosch ACS 261.

#### **Course on Vehicle Diagnostics (KTS 590)**

#### **Objective**

To understand the automotive vehicle diagnosis using KTS 590.

#### **Course Outcome**

The participants of Vehicle Diagnostics will be able to

- Understand and diagnose different systems of vehicle.
- Understand working principle of sensors, actuators and ECU of the vehicle.
- Understand different electric circuit in vehicle.

#### **Course Content**

- Diesel and gasoline engine diagnosis on vehicles using KTS 590.
- Working principle and testing of sensors and actuators in MPFI (gasoline) engine, CRDi (diesel) engine.
- Practical operations in vehicles which are equipped with the above mentioned systems.

#### **Participants**

Students & Faculties from Technical Institutes and Employees from Industries.

#### **HIGHLIGHTS**

- Hands on training of BMW Engine, Ford Eco-Sport, Hyundai Creta and Nissan Micra Vehicles.
- · Blend of classrooms and practical based training.
- · Study materials will be provided.
- · Air conditioned classrooms with ICT facility.



For Registration
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