UNIT 4 : ENGINE EMISSIONS IN PETROL AND DIESEL ENGINES

1. CONDITIONS OF ACCESS TO THE UNIT:

TECHNICAL PRE-REQUISITES :

Before starting the training course, the student must be able to :

- Complete basic maintenance and operation of petrol engine ignition and injection system
- Complete basic maintenance and operation of diesel injection systems
- Use the exhaust-gas measuring devices

METHODOLOGY PRE-REQUISITES :

Before starting the training course, the student must be able to :

- Explain the basic theory of combustion
- Explain the operation of petrol and diesel fuel system and their major components
- Choose the appropriate documents for the job to be done

2. VALIDATION OF UNIT 4 :

Test: practical assessment in a real situation allowing the acquisitions obtained during the training course to be assessed

Objective of the assessment : Assess the capacities of the candidate to establish a diagnostic on engine emissions test in petrol engines or diesel engines using the appropriate information and testing methods, and to repair the possible engine running fault.

Duration: 2 hours 30 maximum
Material Necessary:
Written information about the problem
Vehicle presenting a malfunction on the engine emissionns
All useful technical documents
Equipped work station/ multi gas analyzer/ diesel smoke meter/ OBD-diagnostic tool
NB
The assessment is to be done by at least two instructors competent in the professional domain of automobile maintenance.

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KNOWLEDGE	SKILLS	COMPETENCE
K1: Exhaust Gases K1.1: Composition K1.2: Air – fuel ratio K1.3: European anti-pollution standards **K2:** Pollution Control K2.1: Catalytic converter K2.2: Exhaust gas recycling K2.3: Particle filter K2.4: On Board Diagnosis (OBD) K2.5: Diagnostic, maintenance and servicing	**S1:** Perform diagnostic test to enable the assessment of exhaust gas values with diagnostic information. **S2:** Use OBD diagnostic for the evaluation of engine faults. **S3:** Carry out On Board Diagnosis (OBD) **S4:** Read stored diagnostic trouble codes and diagnose the causes of emissions or driveability problems. **S5:** Carry out emissions inspections on diesel and petrol engines (Certificates of Emissions Control)	**C1:** Diagnose and repair malfunctions of engine emission systems in petrol and diesel engines C1.1: Identify with precision the symptoms of the fault C1.2: Select the hypotheses of the fault depending on the symptoms C1.3: Test the system C1.4: Validate the malfunction and choose the appropriate action to be done C1.5: Respect the methods and schedule **C2:** Organise the work respecting health and safety rules

CREDIT POINTS

FINLAND	FRANCE	HUNGARY	ROMANIA
2	3	7	2