

Take the test

Put yourself to the test. Here are some examples of multiple-choice questions from the on-line knowledge test element for Automotive Technician Accreditation (ATA).

Service Maintenance Technician

Q: The purpose of an antifreeze hydrometer is to:

- A – Measure the antifreeze temperature against water temperature.
- B – Test the viscosity of the antifreeze at a preset temperature.
- C – Compare the relative density of the engine coolant to that of water.
- D – Test the coolant for serviceability and corrosion.

Q: During a routine service you are asked to check part of the charging system. What would this be?

- A – Check the drive belt for wear.
- B – Check the alternator brush condition and length.
- C – Check the maximum output of the alternator.
- D – Check that the connections to the stator are clean and secure.

Q: Relays can be found in many ancillary vehicle equipment electrical circuits. Which statement defines a relay?

- A – A type of solid-state electrical component.
- B – A thermo-electrical switch.
- C – A one-way electrical valve.
- D – An electro-magnetic switch.



AUTOMOTIVE
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Diagnostic Technician

Q: You have measured the voltage reading at the oxygen sensor signal wire with an oscilloscope. What voltage reading would you expect to see with the engine at a constant 2,000 rpm? (There were no problems with the operation of the engine)

- A – Voltage oscillates constantly between 0.2 and 0.8 volts.
- B – Static voltage at approximately 1 volt.
- C – Voltage oscillates constantly between 0.01 and 0.3 volts.
- D – Static voltage at approximately 0.1 volt.

Q: When using an oscilloscope, what type of waveform should be produced from a passive (magnetic/inductive) ABS wheel sensor with the wheel rotating?

- A – Half wave.
- B – DC waveform.
- C – Linear waveform.
- D – AC waveform.

Q: An electronically controlled common rail diesel fuel system uses a fuel pressure sensor. What is purpose of this pressure sensor within the fuel system?

- A – To monitor the fuel pressure in the common rail.
- B – To monitor the fuel pressure between the low pressure pump and the high pressure pump.
- C – To monitor the quantity of fuel injected.
- D – To monitor the pressure in the fuel return system.

Master Technician

Q: European On-board Diagnostic (EOBD) is a system which constantly monitors a vehicle's emissions. How does the powertrain ECU monitor the efficiency of the catalyst?

- A – The system monitors the injection control signal. If the system detects the injection duration is too long for the engine operating conditions, the system will illuminate the MIL.
- B – Two or more oxygen sensors are fitted to the vehicle. The ECU makes a comparison of the oxygen sensor signals. These sensors are situated upstream of the catalyst (S1) and downstream of the catalyst (S2).
- C – The system cannot detect a catalyst failure. The failure of the catalyst can only be detected with the use of an exhaust gas analyser.
- D – The ECU monitors the upstream oxygen sensor signal (S1) and a comparison is made with the injection duration during the fuel system closed loop operation. The ECU can therefore constantly check the efficiency of the catalyst.

Q: The dwell algorithm of an ECU with DIS consists of two different modes. What are they?

- A – Crank mode and run mode.
- B – Full load mode and half load mode.
- C – Stall mode and cold running mode.
- D – Advance and retard mode.

If you want to find out how you scored, the answers to these questions can be found at:
www.automotivetechician.org.uk/news.