

ABC Awards

ABC Awards Level 1 Award in Automotive Studies Multiple Choice Examination

Specimen Paper

TIME: 1 hour

Each question is worth 1 mark.

The total number of marks available is 35.

This is to show the type of scenario and question that will assess the learner.

This is **not** an example of a final paper.

INFORMATION FOR CANDIDATES

Section A contains 3 scenarios with 7 questions relating to each scenario.

Section B contains 14 questions.

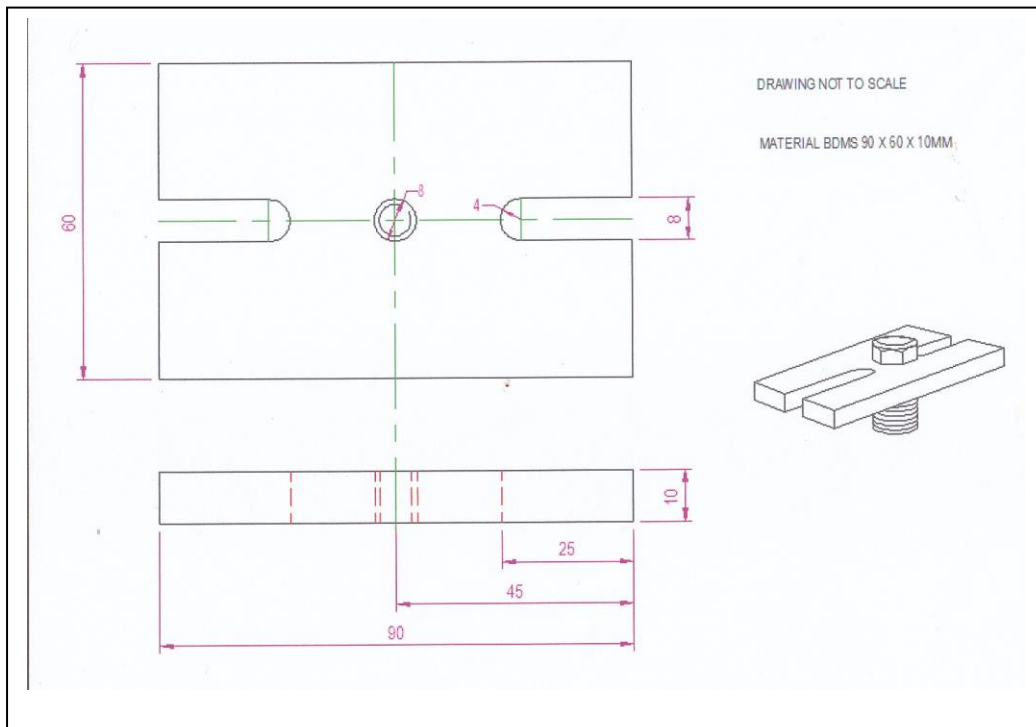
Answer all questions

Scenario 1

A trainee technician has been asked to manufacture a tool to remove a bearing on a job in the workshop. They use the drawing below (Figure 1). The following questions relate to the manufacture of this tool.

(Questions 1-7 refer to this scenario)

Figure 1



1) Why would Mild Steel be the most suitable material to use?

- a) It is a ferrous metal
- b) It is a non-ferrous metal
- c) It is a thermoplastic plastic
- d) It is a thermosetting plastic

2) When about to use a pillar drill to drill the centre hole, the trainee technician notices the safety sign below (Figure 2).

Figure 2



What does this sign mean?

- a) Goggles stored here
- b) Goggles not available
- c) Goggles must be used

d) Goggles must not be used

3) When cutting the mild steel, which would be the most suitable saw to use?

- a) Tenon saw
- b) Ripsaw
- c) Hacksaw
- d) Chainsaw

4) When marking lines on metals, which would be the most suitable engineering tool to use?

- a) Pin punch
- b) Scriber
- c) centre punch
- d) File

5) Who is responsible for providing the Personal Protection Equipment that the trainee technician requires to manufacture the tool?

- a) The employer
- b) The Local council
- c) The Health and Safety Executive
- d) The trainee technician

6) Referring to Figure 1, what is the length of each slot?

- a) 4mm
- b) 8mm
- c) 25mm
- d) 45mm

7) Which tool should be used to form the thread in the centre hole shown in Figure 1?

- a) Reamer
- b) Die
- c) Drill
- d) Tap

Scenario 2

A mechanic has been asked to fit a new main beam headlight unit and replace the dip beam bulb on a vehicle

Questions 8-13 refer to this scenario

Figure 3



Q8) Before starting work the vehicle bodywork should be protected by fitting

- a) Masking tape
- b) Overalls
- c) Wing covers
- d) Magnetic parts tray

Q9) When working on a vehicle tools should not be put on top of a battery because there is a danger of

- a) A short circuit between the two terminals
- b) An open circuit between the two terminals
- c) The two terminals becoming insulated
- d) The two terminals becoming corroded

Q10) The vehicle technical data manual identifies a number of bulbs are fitted to the vehicle. The bulb specified for a replacement dipped beam would be

- a) 5 Watt
- b) 10 Watt
- c) 21 Watt
- d) 55 Watt

Q11) The picture below shows a multi meter being used to test a light bulb. What is the meter set to measure?

Figure 4



- a) Voltage
- b) Current
- c) Resistance
- d) Power

Q12) When fitting a halogen headlight bulb the mechanic must not touch the glass. This is to ensure that the

- a) Correct bulb is fitted
- b) Bulb is not damaged
- c) Current is fully discharged
- d) Polarity is correct

Q13) After fitting the new main beam unit the mechanic should check and adjust the

- a) Trim height
- b) Headlight alignment
- c) Day time running lights
- d) Wheel alignment

Q14) Vehicle lighting bulbs should be disposed of safely to protect yourself and others from the danger of

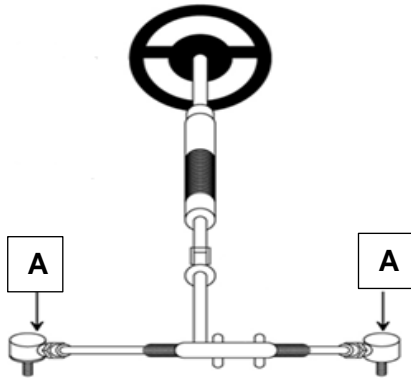
- a) Electric shock
- b) Broken glass
- c) Explosion
- d) Fire

Scenario 3

A vehicle has failed its MOT test because the components identified on the diagram as A are badly worn.

Questions 15-21 relate to figure 5

Figure 5



Q15) Components A are called the

- a) Steering rack
- b) Wheel bearings
- c) Steering gaiter
- d) Track rod ends

Q16) The mechanic has been asked to replace components A. To carry out this job the mechanic needs to raise the front of the vehicle using a hydraulic jack. To be working safely, the mechanic should make sure the vehicle is supported by

- a) The jack
- b) The wheels
- c) Axle stands
- d) Wooden blocks

Q17) To prevent damage to components A when removing them the mechanic should use a

- a) Hammer
- b) Gear puller
- c) Tyre lever
- d) Ball joint splitter

Q18) After fitting new components A to the vehicle the mechanic must check and adjust the

- a) Wheel alignment
- b) Suspension height
- c) Trim height
- d) Wheel balance

Q19) Before finally completing the job the mechanic must make certain the wheel nuts are tightened correctly. This is done by using a socket and

- a) Air wrench
- b) Knuckle bar
- c) Torque wrench
- d) Ratchet

Q20) The new components were supplied in a cardboard box. Cardboard should be disposed of in the bin for

- a) General waste
- b) Recycling
- c) Land fill
- d) Incinerator

Q21) The most suitable method for disposing of components A shown in Figure 5 is to place them in the

- a) Hazardous waste
- b) General waste
- c) Scrap metal waste
- d) Chemical waste

Section B

Q22) When removing cast iron brake drums, care should be taken because the metal used is

- a) Soft
- b) Brittle
- c) Non-ferrous
- d) Malleable

Q23) What are feeler gauges used to measure?

- a) The pitch of screw threads
- b) The thickness of metal
- c) Drill sizes
- d) Clearance between two components

Q24) Why should metal waste be separated from general waste?

- a) It is too heavy
- b) It needs to be used for landfill
- c) It should be recycled
- d) It is flammable

Q25) Aluminium alloy is often used for engine blocks due to its good

- a) Electrical resistance
- b) Heat conductivity
- c) Electrical conductivity
- d) Heat resistance

Q26) A mechanic has fitted a new radiator and refilled the cooling system.

To check for leaks they would carry out a

- a) Pressure test
- b) Thermostat test
- c) Temperature test
- d) Circulation test

Q27) The vehicle manufacturer's data shows that the cooling system holds 10.50 litres of coolant and requires a 50% solution of antifreeze to protect the coolant from freezing.

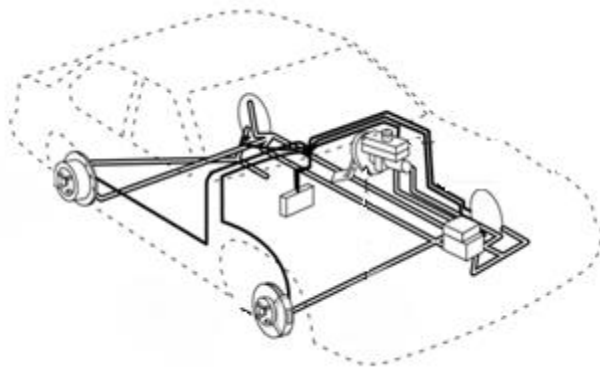
How many litres of antifreeze will be needed?

- a) 0.052 litres
- b) 0.52 litres
- c) 5.25 litres
- d) 52.5 litres

Q28) The vehicle system shown in the diagram below has a low fluid level. It should be topped up with

- a) Antifreeze
- b) Engine oil
- c) Power steering fluid
- d) Brake fluid

Figure 7



Q29) When fitting a new spring to a combined spring and damper suspension leg a special tool must be used to safely

- a) Drain the oil from the damper
- b) Hold the spring compressed
- c) Carry out a bounce test
- d) Lock the brakes

Q30) A waste oil tank must be used for the storage of

- a) All used liquids
- b) Oil and white sprits
- c) Oil and antifreeze
- d) Oil only

Q31) Old exhaust pipes removed from the vehicle must be placed in the

- a) Scrap metal store
- b) General waste store
- c) Hazardous waste store
- d) Contaminated waste store

Q32) Care must be taken when disposing of waste oil to ensure the water course does not become

- a) Diverted
- b) Reduced
- c) Increased
- d) Polluted

Q33) The fastening device shown below is a:

Figure 8



- a) Spire nut
- b) Speed nut
- c) Nyloc nut
- d) Castellated nut

Q34) An example of a non-metallic material is

- a) Iron
- b) Glass
- c) Copper
- d) Brass

Q35) Which engineering measuring instrument would be used to check disc brake run-out

- a) Digital multi-meter
- b) Dial Test Indicator
- c) Torque wrench
- d) Dial Torque Indicator