

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.

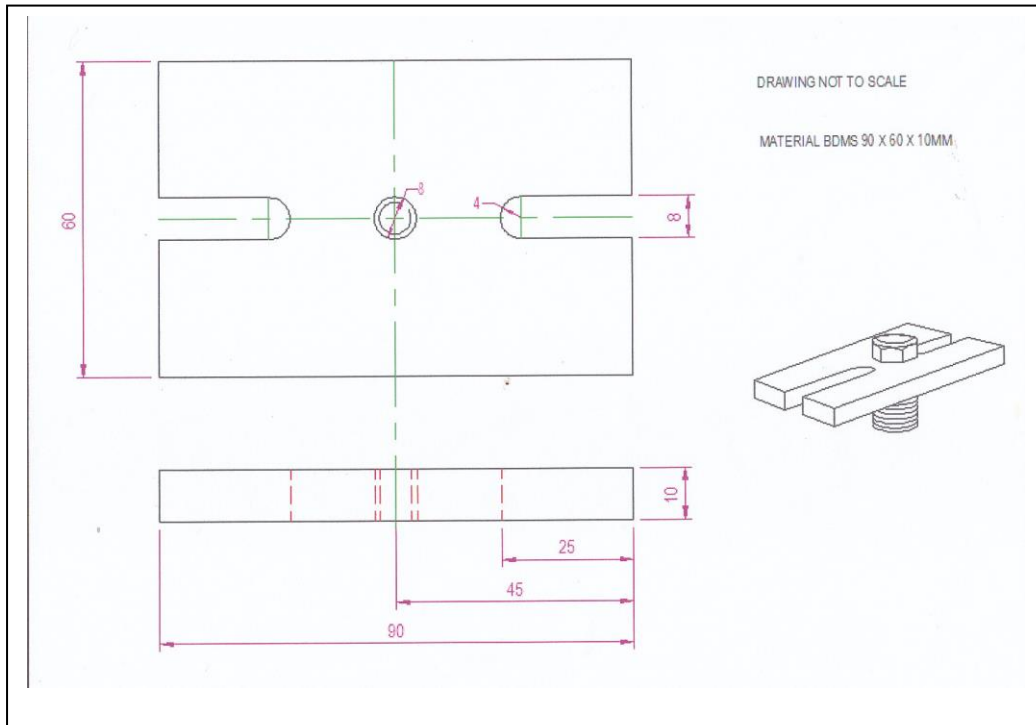
Answer all questions

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

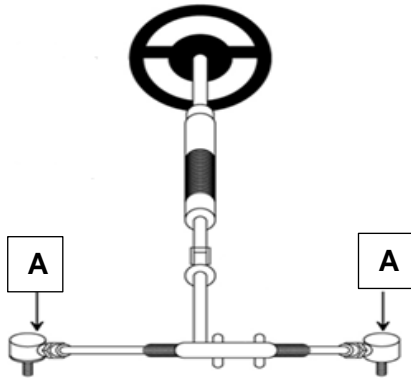
- a) Electric shock
- b) Broken glass**
- c) Explosion
- d) Fire

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.

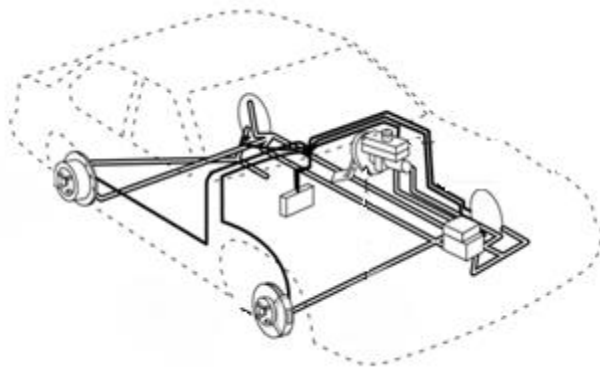
How many litres of antifreeze will be needed?

- 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