

Automotive

Vehicle Body

General Instructions

- Reading time – 5 minutes
- Working time – 2 hours
- Write using black pen
- Board-approved calculators may be used
- Write your Centre Number and Student Number at the top of pages 9, 11, 13 and 15

Total marks – 80

Section I Pages 2–6

15 marks

- Attempt Questions 1–15
- Allow about 20 minutes for this section

Section II Pages 9–16

35 marks

- Attempt Questions 16–21
- Allow about 50 minutes for this section

Section III Page 17

15 marks

- Attempt Question 22
- Allow about 25 minutes for this section

Section IV Page 18

15 marks

- Attempt Question 23
- Allow about 25 minutes for this section

Section I

15 marks

Attempt Questions 1–15

Allow about 20 minutes for this section

Use the multiple-choice answer sheet for Questions 1–15.

- 1 What is the safest and simplest way for a person to move a box of oil filters weighing in excess of 25 kg?
 - (A) Use a block and tackle mechanism
 - (B) Push and slide the box to the desired location
 - (C) Lift the box with bent knees and a straight back
 - (D) Separate the contents into more manageable portions


- 2 Where should a safe operating procedure (SOP) be displayed?
 - (A) At the entrance to the workshop
 - (B) Where the procedure will take place
 - (C) Beside the WHS consumables cupboard
 - (D) Within the room where site inductions take place

- 3 Which level of training is required to gain an automotive vehicle repairer's licence in NSW?
 - (A) Certificate I
 - (B) Certificate II
 - (C) Certificate III
 - (D) Certificate IV

- 4 Which tyre size should be fitted to a 17 inch x $8\frac{1}{2}$ inch alloy wheel? (1 inch = 25.4 mm)
 - (A) 175 / 75R17
 - (B) 225 / 30R17
 - (C) 255 / 40R17
 - (D) 275 / 20R17

- 5 Which of the following actions would directly reduce a workshop's impact on the environment?
- (A) Offer quality service
 - (B) Use good quality parts
 - (C) Purchase supplies in bulk
 - (D) Perform regular workshop audits
- 6 What is the most likely cause of an indicator fuse continuing to blow after an accident repair?
- (A) A burnt relay
 - (B) A broken wire
 - (C) A crushed insulator
 - (D) A faulty fusible link
- 7 What does the abbreviation MIG stand for in relation to MIG welding?
- (A) Metal inert gas
 - (B) Material influx gas
 - (C) Mild steel infusion gas
 - (D) Magnetic infiltration gas
- 8 A panel repair tool kit is shown.

Awaiting copyright



What is the name of this tool kit?

- (A) Strike puller
- (B) Dolly handle
- (C) Impact driver
- (D) Slide hammer

- 9** A test spray should be made prior to commencing spray painting.
Which of the following is NOT being tested?
- (A) Paint curing
 - (B) Spray pattern
 - (C) Colour sample
 - (D) Air pressure setting
- 10** What should be checked first when moisture appears on a panel being spray painted?
- (A) The air-hose for leaks
 - (B) The spray gun settings
 - (C) The air compressor drain valve
 - (D) The amount of thinners in the paint mix
- 11** Where are spot welds typically found in vehicle body construction?
- (A) Butt-joined panels
 - (B) Overlapping panels
 - (C) Panels that have a parallel gap
 - (D) Panels that meet at 90 degrees
- 12** What is the general mixing ratio between body filler and hardener?
- (A) 4:1
 - (B) 12:1
 - (C) 25:1
 - (D) 50:1

13 While spray painting in a booth, a technician can smell thinners.

What should be done to correct this?

- (A) Reduce thinners in the paint mix
- (B) Change the respirator filter of the personal protective equipment (PPE)
- (C) Improve the ventilation in the spray booth
- (D) Adjust the air pressure of the spray gun

14 Which of the following tools is used to planish a repair?

- (A) Slide hammer
- (B) English wheel
- (C) Orbital sander
- (D) Hammer and dolly

15 Why should a steering wheel be locked when removing a steering rack?

- (A) To prevent damage to the clock spring
- (B) To minimise wheel alignment problems
- (C) To aid in re-connecting the steering to the rack
- (D) To ensure correct operation of the steering column controls

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Vehicle Body**

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Centre Number

Section II

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Student Number

35 marks

Attempt Questions 16–21

Allow about 50 minutes for this section

Answer the questions in the spaces provided. These spaces provide guidance for the expected length of response.

Question 16 (4 marks)

Ten litres of engine oil have been spilled on the workshop floor.

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Outline how to clean up and dispose of the waste.

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Question 17 (4 marks)

(a) Where should a workshop dispose of trade waste water? **1**

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(b) Outline TWO environmental consequences of incorrect trade waste disposal. **3**

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Centre Number

Section II (continued)

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Student Number

Question 18 (3 marks)

All new vehicles registered in Australia need to be compliant with Australian Design Rules (ADR). **3**

What is the purpose of these rules?

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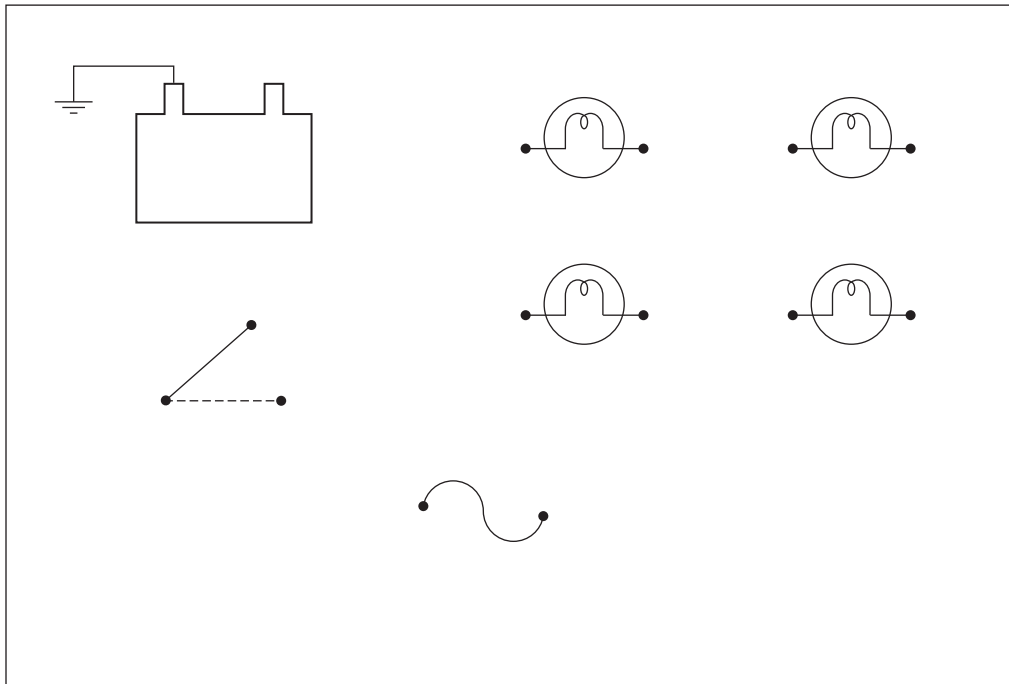
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Question 19 (7 marks)

- (a) Construct a parking light circuit in the box below, using all the symbols provided. **5**



- (b) Explain how you would use a voltmeter to test voltage drop to the parking/tail light circuit. **2**

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**Automotive
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Centre Number

Section II (continued)

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Student Number

Question 20 (8 marks)

A vehicle has sustained significant damage to the driver's door.

- (a) Why is it considered best practice to replace rather than repair the door? **3**

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- (b) Outline an action plan for the removal of the door and the disassembly of the door components. **5**

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**Automotive
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Centre Number

Section II (continued)

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Student Number

Question 21 (9 marks)

- (a) Why should a workshop vice be left with a gap between the jaws when it is not in use? **1**

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- (b) Under what circumstances should the drilling speed be changed on a pedestal drill? **2**

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- (c) What precautions should be observed when using an electric welder in the workplace? **2**

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Question 21 continues on page 16

Question 21 (continued)

- (d) Describe the advantages of using electric-powered tools compared with air-powered tools. **4**

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End of Question 21

**Automotive
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Section III

15 marks

Attempt Question 22

Allow about 25 minutes for this section

Answer the question in a writing booklet. Extra writing booklets are available.

Question 22 (15 marks)

A classic car with a lot of chrome trim and mouldings is to be prepared for painting and restoration.

- (a) What steps should be taken prior to disassembling this car for restoration? **3**
- (b) Describe the difficulties associated with working on classic cars compared to modern vehicles. **4**
- (c) Rust has been removed from a car's lower panels. **8**

What is the most appropriate method to finish this repair and prevent it from recurring?

Please turn over

Section IV

15 marks

Attempt Question 23

Allow about 25 minutes for this section

Answer the question in a SEPARATE writing booklet. Extra writing booklets are available.

Your answer will be assessed on how well you:

- demonstrate knowledge and understanding relevant to the question
 - communicate ideas and information using relevant workplace examples and industry terminology
 - present a logical and cohesive response
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Question 23 (15 marks)

Explain how businesses within the automotive repair industry are addressing the challenge of significant changes in technology, materials, repair techniques and of ensuring sustainable practice.

End of paper