

# 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, 13 and 15

### Total marks – 80

**Section I** Pages 2–5

#### 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.

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- 1** What grade of wet and dry paper is most efficient when stripping paint on a panel back to bare metal?

  - (A) 80
  - (B) 240
  - (C) 400
  - (D) 600
  
- 2** Which of the following is a feature of effective teamwork?

  - (A) Good research skills
  - (B) Technical knowledge
  - (C) Ability to work safely
  - (D) Collaboration on ideas
  
- 3** Why is soap added to water when wet sanding?

  - (A) To improve paper life
  - (B) To maintain a clean surface
  - (C) To minimise panel corrosion
  - (D) To reduce the effort required
  
- 4** What is the first action that should be taken when a fire alarm sounds in a workshop?

  - (A) Notify a supervisor
  - (B) Isolate all power supplies
  - (C) Follow evacuation procedures
  - (D) Lock the flammable goods cabinet

**5** An apprentice has been issued with several official written warnings from his supervisor, but continues to ignore workplace instructions.

Which of the following is likely to be the supervisor's next course of action?

- (A) Review salary
- (B) Restrict benefits
- (C) Reduce working hours
- (D) Terminate employment

**6** Where is a vehicle's factory paint code found?

- (A) On the RMS website
- (B) In the service manual
- (C) On the vehicle identification plate
- (D) Within the vehicle identification number

**7** Which of the following problems may be caused by leaving residue from double-sided tape on a vehicle panel undergoing repair?

- (A) Metal corrosion
- (B) Panel misalignment
- (C) Paint not adhering
- (D) Increased static electricity

**8** Where should a technician place the work order/job card for a vehicle being worked on?

- (A) In a toolbox
- (B) With the vehicle
- (C) In a filing cabinet
- (D) With the customer

- 9** Where should spray-painting materials be stored?
- (A) In a bunded area
  - (B) In a flame-proof cabinet
  - (C) In a well-ventilated area
  - (D) In a consumables cupboard
- 10** Why is the use of silicone products discouraged by the panel repair industry?
- (A) They degrade rubber.
  - (B) They affect paint finish.
  - (C) They promote metal corrosion.
  - (D) They increase paint curing time.
- 11** Which of the following is included within WHS code of practice documents?
- (A) A guide to customer service
  - (B) Information technology guidelines
  - (C) Efficient workshop management procedures
  - (D) General guidelines for handling dangerous goods
- 12** Which of the following is an appropriate use for recycled thinners?
- (A) Removing paint
  - (B) Cleaning spray guns
  - (C) Heating spray booths
  - (D) Removing wax and grease

**13** A technician is working on a car with an intermittent electrical fault which does not present while in the workshop.

What should be the initial step in diagnosing the problem?

- (A) Substitute suspected parts
- (B) Refer to the service manual
- (C) Communicate with the customer
- (D) Wait until the problem reappears

**14** What is the most likely reason for body filler not setting?

- (A) Incorrect mix ratio
- (B) Incompatible thinners
- (C) Poor panel preparation
- (D) Insufficient UV stabiliser

**15** What precaution should be taken to prevent damage to the electrical system when welding a vehicle body?

- (A) Weld at low speed
- (B) Isolate the vehicle earth
- (C) Ensure tyres are fully inflated
- (D) Keep the earth close to the weld

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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**

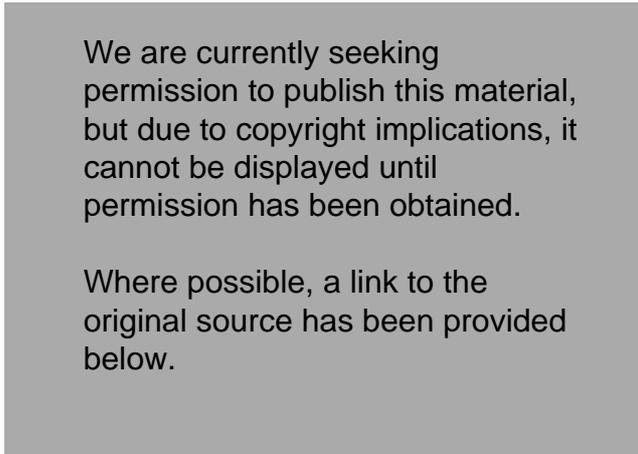
Answer the questions in the spaces provided. These spaces provide guidance for the expected length of response.

Show all relevant working in questions involving calculations.

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**Question 16 (6 marks)**

The photograph shows a tool being used on a car door.



(a) What is the name of the tool shown? **1**

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(b) What are the advantages of using the bolt design shown? **2**

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**Question 16 continues on page 10**

Question 16 (continued)

- (c) The head of one of the bolts shown is damaged and the correct tool can no longer be used. **3**

Identify the tools and steps that a technician could use to remove the bolt without damaging the door.

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**End of Question 16**

**Question 17** (8 marks)

(a) Why is it important that electrical components are replaced with components of the same specification? **2**

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(b) Describe the procedures employed in the removal and replacement of an automotive battery. **3**

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(c) Explain the benefits of using sealed automotive batteries. **3**

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Centre Number

**Section II (continued)**

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Student Number

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**Question 18** (6 marks)

- (a) Why is a small crack in a windscreen considered a safety defect? **2**

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- (b) Outline the steps to remove a cracked windscreen. **4**

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**Question 19** (3 marks)

A customer with limited English skills brings a car to your workshop to be repaired.

**3**

Describe strategies that could be used to ensure the vehicle fault is clearly communicated and understood.

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Centre Number

**Section II (continued)**

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**Question 20** (4 marks)

Describe the difference between a hazard and a risk, using examples from an automotive workshop.

**4**

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**Question 21** (8 marks)

- (a) A pre-purchase inspection is performed on a vehicle.

**6**

An incomplete table showing areas of inspection, possible problems and tools required is given.

The first row has been completed. Complete the table.

<i>Area of inspection</i>	<i>Possible problem</i>	<i>Tools required</i>
Tyres	Worn tread	Tread depth gauge
		Jack and stands
	While driving, vehicle pulls left	
		Hydrometer and load tester
Exhaust		
	Door hard to close	
Windows		

- (b) The inspection identified a number of parts which need to be replaced.

**2**

What vehicle information is required prior to ordering the new parts?

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# Automotive Vehicle Body

## 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.

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### Question 22 (15 marks)

A vehicle involved in an accident has substantial frontal damage and excessive camber on the front left wheel and needs to be assessed for repair.

(a) Why must the whole exterior of this vehicle be inspected? **3**

(b) A vehicle may require disassembly to evaluate all accident damage. **4**

What examples of damage may be revealed by this disassembly?

(c) Structural damage may not be visible even if the vehicle is disassembled. **8**

Describe how the full extent of the damage can be evaluated and how other problems could arise if all the damage is not corrected during the repair.

**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.

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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)

Manufacturers are moving towards the use of alternative fuels and renewable resources to power their vehicles.

Explain the implications this may have for the automotive industry.

**End of paper**