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Date: 31.07.2025 10:40 AM

**071605T4AUT****AUTOMOTIVE TECHNICIAN LEVEL 5****ENG/OS/AUT/CR/6/5/A****SERVICING VEHICLE SUSPENSION SYSTEM****July /Aug 2025**

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**TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION  
COUNCIL (TVET CDACC)**

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**WRITTEN ASSESSMENT****TIME: 3 HOURS**

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**INSTRUCTIONS TO CANDIDATE**

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1. The paper consists of **TWO** sections: **A** and **B**.

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2. Attempt **ALL** the questions in Section A and any **THREE** from Section B

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3. You are provided with a separate answer booklet

4. **DO NOT** write on this question paper.

5. Do not write on the question p

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**This paper consists of FOUR (4) printed pages**

**Candidate should check to ascertain that all pages are printed as  
indicated and that no page are missing.**

Turn Over

**SECTION A (40 MARKS)****Answer ALL the questions in this section.**

1. A vehicle suspension system is classified into different categories. List any **four** categories of vehicle suspension systems. (4 Marks)
2. Every automobile should have a suspension system for it to function properly, outline **four** functions of a vehicle suspension system. (4 Marks)
3. A coil spring is an essential component in vehicle suspension system. Mention **five** components of a coil spring. (5 Marks)
4. State the purpose of suspension's sway bar. (2 Marks)
5. Highlight **four** safety measures that should be taken when handling vehicle suspension system. (4 Marks)
6. Differentiate between a friction damper and a hydraulic damper. (4 Marks)
7. MacPherson suspension system is commonly used in cars. State **four** advantages that make it the most preferred type of suspension. (4 Marks)
8. As an automotive technician working in a garage, what could be the **four** possible faults you are likely to encounter while working on vehicle suspension system (4 Marks)
9. State **three** possible cause of improper suspension height on a motor vehicle. (3 Marks)
10. Outline **four** advantages of rubber springs over metal springs as used in motor vehicle suspension system. (4 Marks)
11. Shock absorber is an essential component in vehicle's suspension system, explain **two** functions of a shock absorber in an automobile. (2 Marks)

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## SECTION B (60 MARKS)

**Answer any THREE questions in this section**

12.

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a) Explain the following terms as used in vehicle suspension system. (10 Marks)

i. Pitching

ii. Rolling

iii. Bouncing

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iv. Sprung weight

v. Unsprung weight.

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b) Outline **five** routine maintenance practices to be carried out on a vehicle suspension system. (10 Marks)

13. A vehicle with a broken leaf springs has been brought to your workshop and the owner asks you to explain to him or her the following;

i. Three possible causes for it to break. (6 Marks)

ii. Describe the operation of a leaf spring suspension using a labelled diagram.

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(14 Marks)

14.

a) Explain **four** types of suspension systems used in automobiles. (8 Marks)

b) With an aid of a well labelled diagram, explain the operation of bellows

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type of air suspension.

(12 Marks)

15.

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a) Arms part of vehicle suspension system. State **four** advantages of using a coil spring. (4 Marks)

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b) Explain the function of the swinging shackle as used in leaf spring suspension system.

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(2 Marks)

c) Using a well labelled diagram, explain the operation of a telescopic shock absorber.

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(14 Marks)