

071603T4AUT

AUTOMOTIVE TECHNOLOGY LEVEL 4

ENG/OS/AUT/CR/5/4/A

Service Vehicle Braking Systems

Mar/Apr 2025



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

WRITTEN ASSESSMENT

INSTRUCTIONS TO CANDIDATE

1. This paper consists of two sections; **A** and **B**.
2. Attempt **ALL** questions in both sections.
3. Marks for each question are as indicated in the brackets.
4. You are provided with a separate answer booklet to answer the questions.
5. Do not write in this question paper.

This paper consists of FOUR (4) printed pages.

**Candidate should check the question paper to ascertain that all pages are printed
as indicated and that no questions are missing.**

SECTION A (10 MARKS)

Attempt ALL questions in this section. Each question carries one mark

1. _____ is the ratio between retarding force and the weight of the vehicle.
A. Braking efficiency
B. Braking
C. Brake fade
D. Bleeding
2. In a disc brake, the fluid from the master cylinder is forced into a _____.
A. Wheel cylinder
B. Caliper
C. Rotor
D. Drum
3. The part of brake system that is operated by the brake pedal and further connected to the wheel cylinders in each wheel through steel pipe lines is _____.
A. Disc
B. Piston
C. Master cylinder
D. Caliper
4. Select the material that is commonly used in production of brake lining.
A. Asbestos
B. Copper
C. Cast Iron
D. Aluminium
5. _____ is found in drum brakes but not in disc brakes system of a vehicle.
A. Disc / Rotor
B. Caliper
C. Brake fluid reservoir
D. Brake shoes

6. Which one of the following is not classification of brakes?
 - A. Air brakes
 - B. Mechanical brakes
 - C. Hydraulic brakes
 - D. Power brakes
7. A soft or spongy brake pedal indicates _____.
 - A. Excessive brake fluid levels
 - B. Air in the brake lines
 - C. Worn brake pads
 - D. Overheated brake fluid
8. Brake fluid needs to be changed periodically _____.
 - A. To maintain high fluid pressure
 - B. To remove contaminants and moisture that can cause corrosion or reduce boiling Point.
 - C. To increase brake pad effectiveness
 - D. To improve brake pedal fee
9. Which of the following is not part of the brake bleeding tools required?
 - A. Bleeding bottle
 - B. Assorted spanner
 - C. Clear pipe
 - D. Screw
10. Braking systems can be adjusted to improve on its effectiveness. Which of the following is not the cause of adjustments?
 - A. worn out brake lining
 - B. worn out brake linkages
 - C. presence of air in the brake line
 - D. insufficient brake fluid in the reservoir

SECTION B (40 MARKS)

Attempt all questions in this section.

11. Brake shoes adjustment is one of the brake services which can be done manually or automatically. State THREE other brakes services which must be done. (3 Marks)
12. List THREE possible reasons for wheel lock caused by brakes. (3 Marks)
13. Give TWO advantages of using adhesive to attach brake lining to the shoe rather than riveting. (2 Marks)
14. List THREE properties possessed by brake fluid. (3 Marks)
15. State THREE factors that contribute to effectiveness of the brakes. (3 Marks)
16. Figure 1 shows parts of the drum brake wheel cylinder, name parts 1 to 4. (4 Marks)

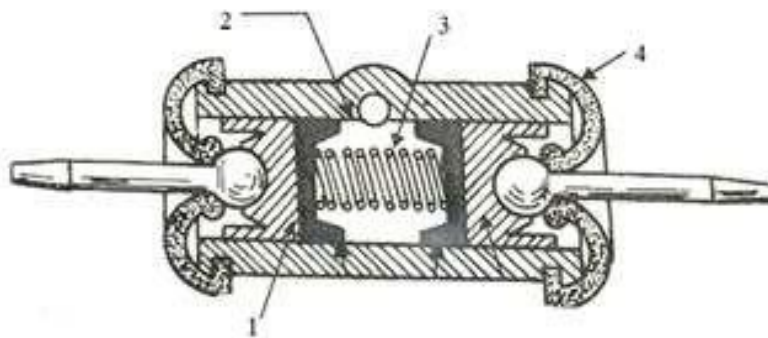


Figure 1

(Award 1 Mark each for any correct response 1x4=4)

17. Give THREE functions of vehicle braking system. (3 Marks)
18. State THREE advantages of disc brakes over drum brakes. (3 Marks)
19. Identify THREE braking system defects encountered during repairing process. (3 Marks)
20. State the means of disposing each of the following wastes generated after performing braking system maintenance. (2 Marks)
 - a) Worn brake lining
 - b) Dirty brake fluids
21. Give THREE personal protective equipment's worn when servicing brakes. (3 Marks)
22. Name THREE tools used when repairing vehicle braking system. (3 Marks)
23. List TWO functions of the brake master cylinder in a hydraulic braking system. (2 Marks)
24. Name THREE main parts of heavy commercial air brake system. (3 Marks)