

071603T4AUT

AUTOMOTIVE MECHANIC LEVEL 3

ENG/OS/AUT/CR/4/3/A

INSPECT AUTOMOTIVE BRAKE SYSTEMS

July/Aug 2023



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

WRITTEN ASSESSMENT

Time: 2 Hours

INSTRUCTIONS TO CANDIDATE:

1. This paper consists of **TWO** sections: **A** and **B**.
2. Attempt **ALL** the questions in both sections.
3. Marks for each question are indicated in the brackets.
4. You are provided with a separate answer booklet.

This paper consists of FIVE (5) printed pages

The candidate should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing

Turn Over

SECTION A: (20 MARKS)*Attempt ALL questions in this section***Matching response questions**

1. In the table below match the components in part A to the correct use in part B. (4 Marks)

	PART A (COMPONENT)		PART B (USE)
a	Brake pad	a	Store the brake fluid.
b	Reservoir	b	Operate the hand brake
c	Mechanical cable	c	Used in drum brake during braking.
d	Brake shoes	d	Used in the brake disc during braking.

True or false Questions

2. Brake fluid leakage is only caused by loose hydraulic piping. (1 Mark)
- a) True
- b) False
3. There are several types of hydraulic pipes used in hydraulic braking system. (1 Mark)
- a) True
- b) False
4. Drop of hydraulic fluid level can be caused by the wear of the brake pads. (1 Mark)
- a) True
- b) False
5. Brake pads are used in drum brake. (1 Mark)
- a) True
- b) False
6. A brake booster is used to boost the level of hydraulic fluid during braking. (1 Mark)
- a) True
- b) False
7. A Vernier caliper cannot be used to check the hydraulic brake fluid level. (1 Mark)
- a) True
- b) False

Multiple Choice Questions

8. The braking system in the car work on _____ principle. (1 Mark)
- A. Frictional force.
 - B. Gravitational force.
 - C. Magnetic force.
 - D. Electric force.
9. _____ is the function of hydraulic brake fluid. (1 Mark)
- A. Reduce the driver's effort needed for braking.
 - B. Multiply force applied to the brakes.
 - C. Stop a vehicle.
 - D. Transmit braking force.
10. In a drum brake, the linings are attached to the _____. (1 Mark)
- A. Brake shoes.
 - B. Axle.
 - C. Wheel.
 - D. Chassis.
11. Hand brake is a type of _____ brake operating system. (1 Mark)
- A. Hydraulic.
 - B. Mechanical.
 - C. Brake booster.
 - D. Pneumatic.
12. _____ is not part of a disc braking system. (1 Mark)
- A. Brake pads.
 - B. Caliper
 - C. Return spring.
 - D. Cylinder seals.
13. A hand brake is used when _____. (1 Mark)
- A. Parking the vehicle.
 - B. Stopping the vehicle.
 - C. Boosting the hydraulic fluid pressure.
 - D. Preventing car from sliding during braking.
14. Brake fade is a common fault in drum braking system, which one of the following is a correct meaning of brake fade: (1 Mark)
- A. Sudden loss of braking pressure from the brake booster.

- B. Hard brake pedal.
- C. Uneven wear of the brake pads over time.
- D. Reduction of brake performance due to overheating of the brake parts.

15. If the brake pedal of a hydraulically operated braking system is spongy, it may be an indication of _____ (1 Mark)

- A. Air in the hydraulic system.
- B. Dirty hydraulic fluid.
- C. Blocked hydraulic system.
- D. System is in good condition.

16. Which one of the following is not part of hydraulic braking system? (1 Mark)

- A. Master cylinder
- B. Wheel cylinders
- C. Hydraulic pipes
- D. Brake cable

17. Which one of the following parts can be inspected for wear when inspecting drum brakes? (1 Mark)

- A. Brake pads.
- B. Brake disc
- C. Piston seals.
- D. Brake caliper.

SECTION B: 30 (MARKS)

Attempt ALL the questions in this section

18. Brakes remaining applied even after releasing the pedal is caused by various faults in the braking system. State **four** causes. (4 Marks)
19. There are **two** types of wheel cylinders, namely: (2 Marks)
20. A vehicle is brought in to the workshop for hand brake servicing. List **four** parts to be inspected in the hand brake. (4 Marks)
21. State **three** advantages of hydraulic brakes over mechanical brakes. (3 Marks)
22. Name **two** main visual brake checks which should be conducted during every start of a long journey. (2 Marks)
23. Bleeding is a process of removing trapped air in a hydraulic brake system. State **three** sources of air in a hydraulic braking system. (3 Marks)
24. Braking system is a sensitive system in a vehicle and it requires regular service. List **four** areas that are serviced in a disc brake system. (4 Marks)
25. Name **four** indicators of faults in a braking system. (4 Marks)
26. A drum is a main component found in drum brake system. List **four** components enclosed in the drum of a drum brake system. (4 Marks)