

071606T4AUT
AUTOMOTIVE TECHNICIAN LEVEL 6
ENG/AUT/CR/8/6/A
SERVICE VEHICLE ELECTRICAL SYSTEMS
Nov. /Dec. 2022



THE KENYA NATIONAL EXAMINATIONS COUNCIL

WRITTEN ASSESSMENT

Time: 3 hours

INSTRUCTIONS TO CANDIDATES

Maximum marks for each question are indicated in brackets ().

*This paper consists of **TWO** sections: **A** and **B**.*

Answer questions as per instructions in each section.

You are provided with a separate answer booklet.

This paper consists of THREE (3) printed pages
Candidates should check the question paper to ascertain that all
pages are printed as indicated and that no questions are missing

SECTION A: (40 MARKS)

Attempt all questions in this section. Marks for each question are indicated against each question.

1. In the diagnosis of the electrical systems of a vehicle, one uses some important tools, name any **FOUR** of these tools **(4 Marks)**
2. Name **FOUR** faults in a vehicle electrical system **(4 Marks)**
3. The battery plays an important role in the vehicle, which **TWO** roles are these **(2 Marks)**
4. The ignition coil is an important component in the ignition system of a vehicle. Which **TWO** functions does it play? **(2 Marks)**
5. The basic battery coil ignition has several parts that help it to function. Which **FOUR** parts are common in this system? **(4 Marks)**
6. Electrical accessories are checked for compatibility whenever the systems are serviced or replaced. Which **THREE** accessories could you check for compatibility? **(3 Marks)**
7. Which function does a fuse box play in an electrical system of a vehicle? **(2 Marks)**
8. Most of the modern vehicles employ air conditioning systems that use compressors in their system. Which **FOUR** functions does the compressor play **(4 Marks)**
9. Briefly explain the function of the charging system in the vehicle. **(2 Marks)**
10. The charging system is made of components that make it operate, which **TWO** components are these? **(2 Marks)**
11. Almost all vehicles are fitted with auxiliary systems that are common and function the same. Which **THREE** auxiliary systems are common? **(3 Marks)**
12. Distinguish between primary circuit and secondary circuit of the ignition system **(4 Marks)**
13. The **TWO** major faults in vehicle electrical motors that are common include? **(2 Marks)**

SECTION B: (60 MARKS)

The section consists of four (4) questions, attempt any three (3) questions in this section.

14. Shiners Technical came for a tour in your automotive workshop to learn more on ignition system of a vehicle. You were required to:
- a) Explain to the student the function of the ignition system **(2 Marks)**
 - b) With aid of a diagram, explain the construction of a spark plug **(18 Marks)**
15. A customer brought a vehicle with a faulty air conditioning ss system to your workshop for repairs. You were required to:
- a) Highlight the **FOUR** causes of faults in the air conditioning of the vehicle to the customer **(4 Marks)**
 - b) With aid of a diagram explain to the customer how the system operates after completing the repairs **(16 Marks)**
16. In most cars, one will always see an alternator fitted on the side of the engine and been driven by a belt.
- a) Which function does an alternator play? **(2 Marks)**
 - b) With aid of a diagram, explain the construction of a vehicle alternator **(18 Marks)**
17. For more comfort and entertainment in your car, radio system together with quality speakers are installed. As a specialist in the workshop, describe the procedure of uninstalling and installing a radio stereo in a car **(20 Marks)**