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071305T4EIN

ELECTRICAL INSTALLATION LEVEL 5

ENG/OS/EI/CR/06/5

Maintain Electrical Installation Systems

July/August 2024

Time: 3 Hours

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

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WRITTEN ASSESSMENT

TIME: 3 HOURS

INSTRUCTIONS TO CANDIDATE:

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

2)Answer questions in all sections as instructed in the answer booklet provided.

3)Marks for each question are indicated in brackets.

4)Do not write on this question paper.

5)Answer the questions in **English.**

This paper consists of THREE (3) printed pages.

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

SECTION A (40 MARKS)

*Answer **all** questions in this section.*

1. It is always advisable to carry out regular inspection on installations. List **two** merits of regular inspection of electrical systems. (2 marks)
2. As a technician you need a maintenance schedule and maintenance procedure documents before carrying out your tasks. Differentiate the **two** documents as used in electrical installation system. (2 marks)
3. Documenting maintenance activities has always been emphasized in engineering practice. State **five** benefits of documenting all maintenance activities related to electrical equipment. (5 marks)
4. Bahati intends to separate tools and instruments in electrical installation maintenance. Highlight **one** way of separating tools from instruments before use. (2 marks)
5. After electrical installation maintenance has been carried out testing has to be done before leaving the site. State **three** reasons for testing the installation. (3 marks)
6. A generator was installed at Ujuzi Technical College and after one month it was noticed that the generator was not running as expected. Outline **five** causes of generator failure. (5 marks)
7. Before carrying out electrical maintenance it is always advisable to identify the type of electrical installation system. List **four** visual indicators that can be used to identify the type of electrical installation system. (4 marks)
8. Different systems have different maintenance requirements and safety protocols. List **four** indicators of inaccurately identified electrical installation faults after maintenance. (4 marks)
9. As a maintenance technician it is important to define the scope of maintenance. State **three** ways that can be used to define the scope of maintenance activities. (3 marks)
10. Maintenance schedule is crucial before carrying out maintenance. Name **six** tasks included in an electrical maintenance schedule based on a service checklist. (6 marks)
11. Planned maintenance is important to both the electrician and end user. Identify **four** advantages of planned maintenance in an electrical installation. (4 marks)

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SECTION B (60 MARKS)

*Answer **THREE** questions in this section*

12. a) Proper waste disposal is important. Outline **three** methods that can be adopted in waste disposal after maintenance has been done. (6 marks)

b) Maintaining electric motors is crucial for ensuring their optimal performance and longevity in Service. Describe **seven** activities carried out during electric motor maintenance. (14 marks)

13. a) Before carrying out maintenance it is important to define the scope. Describe **five** factors that influence the determination of maintenance scope. (10 marks)

b) Maimuna is a maintenance technician at Coca cola Bottlers Company Limited. She has planned together with her team to carry out installation maintenance and safety is a priority for them. Explain **five** functions of safety equipment that are likely to be used by these technicians. (10 marks)

14. a) Hand tools are useful in electrical installation sites. Describe the functions of **three** types of hand tools. (6 marks)

b) As an electrician before correcting faults back to normalcy, one has to follow key steps for effective corrective actions to be done. Outline **seven** steps followed when carrying out corrective maintenance in electrical circuit after faults. (14 marks)

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15. a) Electrical hazards are dangerous and can be prevented when one is aware of the factors that contribute to them. Explain **four** causes of electrical hazards during maintenance. (8 marks)

b) An elaborated service checklist is essential when preparing for electrical installation maintenance. Describe **six** components that can be found on an electrical maintenance service checklist. (12 marks)

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