



AMREF INTERNATIONAL TRAINING CENTER

Qualification Code :

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Unit Code : HE/CU/HR/CC/04/5/A

Unit of Competency : APPLY MEDICAL INSTRUMENTATION

WRITTEN ASSESSMENT

Time: 3 HOURS

INSTRUCTIONS TO CANDIDATE

1. Marks for each question are indicated in the brackets.
2. The paper consists of **TWO** sections: **A** and **B**.
3. Candidates are provided with a separate answer booklet
4. **DO NOT** write on this question paper.

This paper consists of TWO (2) 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)

Answer all questions in this section

1. Medical instrumentation plays a critical role in healthcare settings by aiding healthcare professionals in meeting the objectives of healthcare.
 - a) Define the term medical instrumentation? (2 Marks)
 - b) State TWO examples of medical instrumentation that are used in triage (2 Marks)
2. Parameters provide crucial information about a patient's physiological state. State any **FOUR** parameters that can be measured using biomedical instruments (4 Marks)
3. Medical Equipment encompasses a vast array of tools and devices used in healthcare settings to diagnose, treat, and monitor patients. Highlight **FOUR** objectives of learning medical equipment. (4 Marks)
4. There is a patient who came in to the hospital emergency gasping for air. Identify four preparations that will be needed in making oxygen cylinder. (4 Marks)
5. An autoclave machine is used in surgical settings. Outline TWO uses of an autoclave in a health care set up (4 Marks)
6. A hot air oven is a piece of equipment that uses dry heat for sterilization or drying purposes. Name **FOUR** parts of a Hot air oven (4 Marks)
7. Digital weighing scales are electronic devices that measure the weight of an object and display the result numerically on a digital screen. Highlight **FOUR** accessories used in a digital Weighing scale. (4 Marks)
8. Maintenance of medical instruments is absolutely critical in healthcare. It ensures that these devices function accurately and reliably, which impacts patient safety and quality of care. Name **FOUR** maintenance procedures needed for blood glucometer after use by medical professional (4 Marks)
9. The use of medical instruments may be hindered by various factors. Enumerate **FOUR** barriers that medical records officer can face when using the medical instruments. (4 Marks)
10. Computer is one of the widely used medical devices in the world today. State any **FOUR** hardware components of a computer (4 Marks)

SECTION B: (60 MARKS)

Answer any THREE questions from this section

11. Stakeholders are individuals or groups who have an interest in or are affected by medical instruments. They play various roles in the development, use, and maintenance of these instruments and their collaboration is essential for ensuring safety and effectiveness of medical technologies.

a) Describe FOUR major categories of stakeholders involved with medical equipment in the context of medical instrumentation (8 Marks)

b) For each stakeholder category identified in (a), discuss their specific roles and responsibilities related to medical equipment. (8 Marks)

c) Explain FOUR different stakeholders and the importance of collaboration among them for the effective use and management of medical equipment (4 Marks)

12. A teacher asks a student to view a prepared slide of a plant leaf under low magnification. The student switches to high magnification but can no longer see the specimen

a) Identify two possible reasons for the above case scenario (2 Marks)

b) With an aid of a labeled diagram Illustrate the structure of a light microscope (14 Marks)

c) Explain Two ways of maintaining a microscope (4Marks)

13. As a newly employed health records officer, you have been tasked to the hospital administration to take a stock of auxiliary equipment in the filing library.

a) Explain TWO auxiliary equipment that should be found in a well-established filing library (4 Marks)

b) Describe TWO function of each equipment listed in (a) above (4 Marks)

c) Explain SIX factors to consider when purchasing the above equipment (12 Marks)

14. Medical devices are classified based on different criteria and class is one of them.

a) Describe the categorization of medical equipment based on classes (6 Marks)

b) Describe SEVEN general ways of improving the longevity of medical equipment (14 Marks)