



**AMREF INTERNATIONAL TRAINING CENTER**

Qualification Code : 102105T4COH

Qualification : Community Health Level 5

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

Unit of Competency: Apply Microbiology and Parasitology

**WRITTEN ASSESSMENT: END TERM PAPER**

**Time: 3 HOURS**

**Date:**

**INSTRUCTIONS TO CANDIDATE**

1. This paper has two sections A and B
2. You are provided with a separate answer booklet
3. Marks for each question are as indicated
4. Do not write on the question paper

**This paper consists of Three (3) printed pages. Candidates should check the question paper to ascertain that all the pages are printed as indicated**

**SECTION A (40 MARKS)**

*Attempt all the questions in this section.*

1. Microorganisms play various roles in the environment and human health. Identify four major types of microbes. (4 marks)
2. Parasites depend on their hosts for survival. Outline four characteristics of parasitic organisms. (4 marks)
3. The Gram staining technique is used to differentiate bacteria. Highlight four reagents used in Gram staining and their roles. (4 marks)
4. Viruses require a host to survive and multiply. State four types of viral diseases affecting humans. (4 marks)
5. Helminths have different morphological features. Enumerate four distinguishing characteristics of helminths. (4 marks)
6. Disease transmission can be influenced by environmental factors. Identify four environmental factors that contribute to disease spread. (4 marks)
7. Fungal infections are categorized based on their site of infection. Outline four types of fungal infections (4 marks)
8. The immune system consists of different defense mechanisms. Highlight four components of the innate immune system. (4 marks)
9. Laboratory diagnosis plays a key role in disease identification. Identify four staining techniques used in microbiology and parasitology. (4 marks)
10. Preventive measures help in controlling infectious diseases. Name four strategies for controlling vector-borne diseases. (4 marks)

**SECTION B (60 MARKS)**

Answer *three* questions in this section

11. The identification of microbes and parasites relies on various laboratory diagnostic techniques.

a) Describe five laboratory techniques used in diagnosing microbial and parasitic infections. (10 marks)

b) Describe how staining techniques aid in the identification of bacteria and parasites. (6 marks)

c) Describe two importance of microscopy in the study of microorganisms. (4 marks)

12. The life cycle of a parasite is crucial in understanding its transmission and control.

a) Discuss the stages of a typical parasite's life cycle. (10 marks)

b) Explain how the life cycle of Plasmodium species contributes to the spread of malaria. (10 marks)

13. The spread of microbial and parasitic diseases can be prevented through various interventions.

a) Explain five roles of vaccination in controlling infectious diseases. (10 marks)

b) Describe five ways in which sanitation and vector control prevent parasitic infections. (10 marks)

14. A community experiences an outbreak of gastrointestinal illness characterized by diarrhea, abdominal cramps, and vomiting. Public health officials trace the outbreak to a local stream used as a recreational area.

a. Identify the type of microorganisms that could be responsible for this outbreak (2 Marks)

b. Describe two categories of water-associated diseases (4 Marks)

c. Discuss six public health measures that should be implemented to prevent future outbreaks (12 Marks)