



AMREF INTERNATIONAL TRAINING CENTRE

Qualification Code: 102106T4COH

Unit Course: COMMUNITY HEALTH LEVEL 6

Unit Code: HE/OS/CH/CC/05/6/A

Unit of Competency: APPLY BASIC MICROBIOLOGY AND PARASITOLOGY

WRITTEN ASSESSMENT

Time: 3 hours

INSTRUCTIONS TO CANDIDATES

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

Answer questions as per instructions in each section.

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

You are provided with a separate answer booklet.

Do Not write on the question paper

This paper consists of FOUR (4) printed pages.

Candidates 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 the questions in this section

1. Define the following terms: (4 Marks)
 - a) Incidence
 - b) Prevalence
 - c) Outbreak
 - d) Symbiosis
2. Distinguish between virulence and pathogenesis (4 Marks)
3. Mention FOUR types of microbes responsible for illnesses in your community (4 marks)
4. Outline the FIVE stages of binary fission which bacteria undergo while reproducing asexually (5 marks)
5. Microbes have optimal growth conditions under which they thrive, but once outside of these conditions, the stress can result in either reduced or stalled growth, or death. Identify FOUR factors that affect the development of microbial organisms. (4 Marks)
6. Proper collection of an appropriate clinical specimen is the first step in obtaining an accurate laboratory diagnosis of an infectious disease. Highlight FOUR specimens that can be used in a laboratory for diagnosis. (4 Marks)
7. Plasmodium belongs to the phylum Apicomplexa, a taxonomic group of single-celled parasites with characteristic secretory organelles at one end of the cell. Identify FOUR plasmodium species that cause malaria. (4 Marks)
8. Public health focuses on the prevention of disease and health promotion rather than the diagnosis and treatment of diseases. Outline THREE levels of disease prevention (3 Marks)
9. Outline FOUR applications of microbiology and parasitology in community health. (4 marks)
10. Identify any four contagious viral diseases that may be present in your community (4 Marks)

SECTION B (60 MARKS)

ANSWER ANY THREE QUESTIONS IN THIS SECTION

11. In a closed system or batch culture where no food is added and no wastes removed, bacteria will grow in a predictable pattern, resulting in a growth curve composed of four distinct phases of growth.
- a) With an aid of a diagram illustrate the microbial growth curve. (4 Marks)
 - b) Describe the FOUR phases of growth curve. (16 Marks)
12. As a health personnel, you are called upon to determine the chain of infection of a recent outbreak of malaria infection in an irrigation scheme.
- a) Identify the parasite which causes severe malaria. (2 marks)
 - b) Explain THREE ways of transmission of plasmodium parasites to a healthy person from an infected person. (6 marks)
 - c) Explain SIX measures the government has put in place to prevent and control plasmodium disease in your community. (12 marks)
13. Diarrhea remains the leading cause of preventable death among under-fives in Kenya. Master Shem, 6 years old is admitted in the pediatric ward with a diagnosis of cholera having lost more than 10% body weight.
- a) Identify the bacterium which causes cholera (2 marks)
 - b) Explain THREE risk factors of cholera transmission to a healthy person (6 marks)
 - c) Explain SIX measures the government can put in place to prevent and control cholera outbreaks in your community. (12 marks)
14. The prevalence of Helminthic diseases among preschool children remains a public health challenge and this can affect their physical growth.
- a) Explain TWO risk factors of helminthic diseases. (4 Marks)
 - b) Identify FOUR helminthic diseases apart from Ascariasis. (4 Marks)
 - c) Discuss the life cycle of Ascariasis. (12 Marks)