

102106T4COH

COMMUNITY HEALTH LEVEL 6

HE/OS/CH/CC/05/6/A

APPLY BASIC MICROBIOLOGY AND PARASITOLOGY

July/August 2024



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

WRITTEN ASSESSMENT

TIME: 3 HOURS

INSTRUCTIONS TO CANDIDATE

1. This paper consists of two sections; **A** and **B**
2. Answer **ALL** the questions as guided in each section
3. Marks for each question are as indicated in the brackets
4. You are provided with a separate answer booklet to answer the questions
5. Do not write in this question paper

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]

Answer ALL questions from this section.

1. Protozoans are single-celled eukaryotic organisms that are diverse in shape, size and lifestyle, ranging from free-living species to parasites. Highlight FOUR protozoal infections that cause harm to the hosts. [4 Marks]
2. Tuberculosis is a contagious bacterial infection that primarily affects the lungs but can also affect other parts of the body such as the kidneys, spine and brain. Outline FOUR signs and symptoms of tuberculosis. [4 Marks]
3. An organism engaged in a close association with another organism of a distinct species is classified as a symbiont. Outline THREE examples of symbiotic relationships. [3 Marks]
4. Parasitology involves studying the classification, life cycles, ecology and impacts of parasites on their hosts. Identify FOUR benefits of studying microbiology and parasitology. [4 Marks]
5. Specimens are collected and transported to the medical laboratory for identification of infections and diseases. Identify FOUR specimens used in the identification of infections and diseases. [4 Marks]
6. Schistosomes are parasitic flatworms that are causative agents of schistosomiasis. Outline FOUR signs and symptoms of Schistosomiasis. [4 Marks]
7. Parasites are organisms that live on or inside another organism and derive nutrients at the host. Identify THREE organs in the human host where parasites inhabit. [3 Marks]
8. Influenza virus causes seasonal outbreaks of respiratory illness characterized by fever, cough, sore throat, body aches and fatigue. Mention THREE other human viral diseases. [3 Marks]
9. Syphilis is a bacterial infection that can spread through sexual contact between individuals. Identify THREE signs and symptoms of this infection. [3 Marks]
10. Malaria is one of the leading causes of mortality in tropical regions. State FOUR preventive measures to curb the spread of malaria. [4 Marks]
11. Fungi has both beneficial and detrimental effects to human beings. Outline FOUR beneficial effects of fungi to humans. [4 Marks]

SECTION B: [60 MARKS]

*Answer any **THREE** questions in this section.*

12. As a disease surveillance officer in Mnarani Sub- County, you conducted disease surveillance to determine the prevalence of typhoid diseases in Community Health Unit X.
- a) Discuss FIVE factors that might have predisposed them to the disease. [10 Marks]
 - b) Explain FIVE preventive and control measures that can be emphasized to curb the spread of typhoid in Community Health Unit X. [10 Marks]
13. Bacteria require optimum conditions for growth and these increase their infectivity and progression in the host.
- a) Draw a well-labeled diagram to illustrate a typical bacterium. [6 Marks]
 - b) Explain the FOUR phases of microbial growth. [8 Marks]
 - c) Discuss THREE industrial utilizations of microorganisms. [6 Marks]
14. Parasites have evolved various strategies in their life cycle to exploit their hosts, which leads to severity of diseases.
- a) Using examples, discuss FIVE types of hosts according to their role in the life cycle of the parasite. [10 Marks]
 - b) Discuss FIVE challenges encountered in the prevention and control of parasitic diseases. [10 Marks]
15. Poliomyelitis is a highly contagious viral infection affecting the nervous system, posing a great health crisis across the Globe. Interventions has been put in place by the Ministry of Health to prevent and control the re-emergence of such contagious viral infections.
- a) Discuss FIVE possible risk factors for the reemergence of Poliomyelitis especially in slums and marginalized regions in Kenya. [10 Marks]
 - b) Discuss the FIVE steps involved in viral replication in the host cells. [10 Marks]

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