

102106T4COH

COMMUNITY HEALTH LEVEL 6

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

Apply Microbiology and Parasitology

March/April 2025



**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** questions in section A and **ANY THREE (3)** questions in section B.
3. Marks for each question are indicated in the brackets.
4. Candidates are provided with a separate answer booklet
5. 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
pages are printed as indicated and that no questions are missing.

SECTION A (40 MARKS)

Answer ALL the questions in this section.

1. When viewing microbes under a microscope, you notice that the microorganism is lacking the nuclear membrane. With an example, identify the classification of the microorganism. [2 Marks]
2. Correct identification of Helminthes is a crucial step towards possible treatment and good prognosis. Outline TWO criteria used in classification of Helminthes. [4 Marks]
3. There are several factors that affect microbial growth. Highlight FOUR factors that affect microbial growth in food. [4 Marks]
4. Interaction between the host and the microorganism results in clinical presentation of the disease. Outline THREE factors that cause variance of signs and symptoms after an infection [3 Marks]
5. You are assigned to work in a triage area in a level 2 health facility to take and record vital signs of the clients. Outline THREE vital signs that you will be taking. [3 Marks]
6. Gram staining is a differential staining technique utilized to distinguish and classify bacteria species. Using an example in each, differentiate between gram-positive and gram-negative bacteria species. [4 Marks]
7. Diseases are classified into several groups like respiratory infections, gastrointestinal infections, sexually transmitted infections, skin infections, blood infections among others. Highlight FOUR importance of such disease classification groups. [4 Marks]
8. Communicable diseases can be effectively prevented and controlled at level 1 and 2 in the primary care networks (PCN). Enumerate FOUR protection strategies for susceptible host to communicable diseases. [4 Marks]
9. Various samples like stool and blood can be used for diagnosis and examination of parasites. Identify THREE parasites that can be examined from stool specimen. [3 Marks]
10. Microbiological examination of food allows us to compare the levels of different bacteria found against those we expect to find in similar types of products. This helps us to assess whether the food was manufactured safely, handled hygienically, stored correctly or would be a risk to health if consumed. Identify FOUR bacteria that are tested in food. [4 Marks]

11. You have been invited to give a health talk on prevention measures of antroposis diseases. Enumerate TWO antroposis diseases you will talk about. [2 Marks]
12. Protozoan exhibits all the characteristics of living organisms. Identify THREE features in protozoan that aids locomotion. [3 Marks]

SECTION B (60 MARKS)

Answer Any THREE Questions in This Section

13. The government of Kenya through the Ministry of Health is doing all it can in the control and eradication of Malaria. This is done by distribution of treated mosquito nets, provision of prophylaxis and treatment of confirmed malaria cases in endemic regions.
- a) Describe the life cycle of malaria parasite involving the anopheles' mosquito and the human host. [10 Marks]
 - b) Explain FIVE conditions for the transmission of malaria parasite to occur. [10 Marks]
14. Parasites are identified by observation of the morphological characteristics under the microscope. Observation under microscope is aided by stains. Protozoal stains like Giemsa stain have been used for the classification of protozoa like malaria and trypanosoma.
- a) Discuss the steps followed in classification of protozoan by using the stains method. [12 Marks]
 - b) Using an example in each, explain the FOUR classifications of protozoa. [8 Marks]
15. During the recent World Aids Day celebration, the ministry of health emphasized on the need to reduce the transmission of Human Immunodeficiency Virus/Acute Immuno-Deficiency Syndrome in Kenya.
- a) Determine the factors for Human Immunodeficiency Virus transmission using the epidemiological triad as a disease causation model. [10 Marks]
 - b) Discuss FIVE disease transmission routes. [10 Marks]
16. Everyone is at risk of contracting parasitic infection. As a community health officer in community X, you have been tasked to give a health education on parasitic infection.
- a) Discuss SIX ways through which the risk of contracting parasitic infection can be lowered. 12 Marks]
 - b) Explain FOUR diagnostic methods that can be used in parasitic infection diagnosis. [8 Marks]