

102106T4COH

COMMUNITY HEALTH LEVEL 6

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

Apply Basic Microbiology and Parasitology

Nov/Dec 2024



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

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 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 the questions in this section.

1. Define the following terminologies; (3 Marks)
 - a) Parasite.
 - b) Microbe.
 - c) Commensalism.
2. Bacteria are unicellular organisms whose cells are described as prokaryotic because they lack a nucleus. Highlight FOUR major shapes that they tend to exist in. (4 Marks)
3. Algae are also known as cyanobacteria in microbiology. State FOUR features that they possess. (4 Marks)
4. Protozoa multiply in humans leading to serious infections from just a single organism. Identify FOUR categories of protozoa. (4 Marks)
5. A pathogen can infect a susceptible host through various modes of transmission. Outline THREE modes of disease transmission. (3 Marks)
6. Body immunity is very crucial in protection against antigens. Highlight TWO types of immunities that can be achieved by the body against specific antigens. (2 Marks)
7. During bacteriological analysis, stool and urine samples are taken for the determination of parasites in the body. Identify FOUR endoparasites in humans. (4 Marks)
8. XYZ College has been invaded by bed bugs in their hostels, state TWO factors that could have contributed to this invasion. (2 Marks)
9. The growth of microbes is influenced by a variety of factors. Outline FOUR environmental factors that influence the rate of growth of microbes. (4 Marks)
10. The archaeobacteria have cell wall structure but lack peptidoglycans. Based on their habitat, mention FOUR categories of archaeobacteria. (4 Marks)
11. Microbes are major disease causative pathogens. Identify FOUR types of microbes responsible for illnesses in your community. (4 Marks)
12. The diagnosis of diseases caused by microbes and parasites usually relies on the microbiological examination of specimens by use of a microscope. Mention TWO gram stains used in microbial examination. (2 Marks)

SECTION B (60 MARKS)

Answer Any THREE Questions in This Section

13. The growth curve of a bacterial population is the phases involved in terms of the logarithms of the actual numbers in the population plotted against time.
- a) Construct a well-labelled growth curve of bacteria. (6 Marks)
 - b) Describe the FOUR distinct phases of bacteria growth. (8 Marks)
 - c) Explain THREE routes of infectious disease transmission in your community. (6 Marks)
14. During microbiology practical, Madam Vivian, a microbiology trainer instructed you to examine different species of plasmodium parasites based on their morphological features.
- a) Explain THREE extrinsic factors that affect the agent and the opportunity for exposure. (6 Marks)
 - b) Describe THREE levels of disease prevention. (6 Marks)
 - c) Explain FOUR measures the government has put in place to prevent and control malaria in your community. (8 Marks)
15. Symptoms of a disease are subjective and are felt by the patient, but they cannot be clinically confirmed or objectively measured.
- a) Using a well-labelled diagram, illustrate the progression of an infectious disease. (6 Marks)
 - b) Describe the FIVE phases of infectious diseases progression. (10 Marks)
 - c) Explain TWO objectives of primary health care. (4 Marks)
16. Diseased organism commonly exhibits signs or symptoms indicative of abnormal state. Thus, the normal condition of an organism must be understood in order to recognize the hallmarks of disease.
- a) Explain FOUR iatrogenic diseases that are contracted as a result of medical procedures. (8 Marks)
 - b) Discuss SIX links in the chain of infection of microbes and parasites. (12 Marks)