

NATIONAL UNIVERSITY OF LESOTHO

**BSc. ENVIRONMENTAL HEALTH
SEMESTER B SUPPLEMENTARY EXAMINATIONS**

EHS4305: COMMUNICABLE DISEASE CONTROL

August 2023

Time: 3 hours

Marks: 100

Instructions to candidates

1. This paper consists of three sections.
2. Answer **ALL** questions in Sections A and B.
3. Answer **ONE** question in Section C.
4. Mark allocations are shown in brackets.
5. Each question must be started on a new sheet.

SECTION A

Answer all questions.

Select the letter that represents the correct answer.

[10]

1. Which of the following is an example of a disease not transmitted by mosquitoes?
 - A. Dengue fever
 - B. Malaria
 - C. Scabies
 - D. Yellow fever

2. Of the following etiologic agents, which one is not transmitted by the faecal-oral route?
 - A. Hepatitis A virus
 - B. *Schistosoma mansoni*
 - C. *Vibrio cholerae*
 - D. *Entamoeba histolytica*

3. A communicable disease that cannot be prevented by vaccine is
 - A. Tetanus
 - B. Diphtheria
 - C. Ebola virus disease
 - D. Malaria

4. Person B becomes infected with HIV as a result of sharing a needle with HIV-positive person, A. In the chain of infection before person B got infected, the reservoir was...
 - A. Person A
 - B. Person B
 - C. Contaminated needle
 - D. The hole made by the needle in person B's skin

5. Which of the following is an example of transmission by droplet contact?
 - A. Infected wound fluid contacting nurse's hand
 - B. A virus transmitted through sexual intercourse
 - C. Microorganisms contact a person's nasal mucus when another one coughs nearby
 - D. A contaminated salad is eaten by a school child

6. Which of the following is a primary preventive measure for pulmonary tuberculosis?
 - A. BCG vaccination to newborns and grade 1 school entrants
 - B. Medical and x-ray facilities
 - C. Health education on the transmission and control of TB
 - D. Provision of public health nursing services

7. The incubation period for leprosy is...
- A. 24-48 hours
 - B. 10-12 days
 - C. 3-4 weeks
 - D. 2-8 years
8. An NTD that is targeted for elimination in Lesotho is...
- A. Tetanus
 - B. Rabies
 - C. Schistosomiasis
 - D. Lymphatic filariasis
9. Diseases and conditions that should be reported immediately to the next reporting level under IHR (2005) exclude
- A. Maternal death
 - B. Ebola virus fever
 - C. Bubonic plague
 - D. Escherichia coli infection
10. An epidemic in which the causative agent is transmitted from person to person is called
- A. Propagated epidemic
 - B. Common continuous source epidemic
 - C. Intermittent epidemic
 - D. Point source epidemic

SECTION B

Answer all questions.

QUESTION 1

[20]

- a) Explain the following terms and phrases as used in Communicable Disease Control
- i. Disease; [3]
 - ii. Integrated Disease Surveillance and Response; [4]
 - iii. Zero reporting. [3]
- b) Contrast the following, giving examples:
- i. Quarantine and Isolation; [5]
 - ii. Elimination and Eradication [5]

QUESTION 2**[12]**

Read text in the box below and answer the questions that follow.

Suppose the surveys in your country have indicated the **overall coverage** of all basic childhood vaccines for children aged 12-23 months to be as follows:

Year	2004	2009	2014	2019
Percentage Coverage	68	62	68	77

Despite the trend, the coverage for **individual vaccines**, ranged from 76 to 98% in 2019, which is adequate to provide general immunity.

- Name 2 diseases against which children aged 12-23 months are vaccinated in your country as recommended by WHO. [2]
- Mention 2 possible reasons for the declined coverage of basic vaccines in your country? [2]
- What term is used to describe the ‘general immunity’ mentioned in the information above? [2]
- Explain how vaccines are able to provide this “general immunity”. [4]
- Mention 2 roles that an Environmental Health Practitioner can play in vaccination activities. [2]

QUESTION 3**[20]**

Giving an example of an infection, explain how such an infection may be prevented and/or controlled in the following settings. **Use a different disease from a) to d):**

- Workplace, [5]
- Correctional facility/prison, [5]
- Hospital, [5]
- Nursery school/day care centre. [5]

QUESTION 4**[18]**

a) Suppose you are an EHP working in a health facility in Lesotho. Explain the role you would play, working with other professionals to reduce the incidence and prevalence of Pulmonary Tuberculosis. [6]

b) The table below shows information on Tuberculosis in Lesotho.

	2011	2012	2013	2014
Number of TB Mortality Cases	7500	7100	6900	6800
% of TB patients who tested HIV positive	77%	76%	75%	74%

Source: Lesotho Global AIDS Response Progress Report 2015

- i. Describe the trend shown in the table. [4]
- ii. What might be the explanation for the trend shown? [8]

SECTION C

Answer one question in this section

QUESTION 1 [20]

Suppose a high number of cases of Anthrax have been reported in your area of jurisdiction.

- a) Explain the steps you would undertake to investigate a possible outbreak until you can implement control measures. [10]
- b) Discuss the strategies you would undertake in your role as an EHP to prevent further spread of the disease [10]

QUESTION 2 [20]

- a) Discuss the aetiology and risk factors of a zoonotic foodborne disease of your choice [6]
- b) For the disease selected in a) above mention the following:
 - i. Two signs and symptoms in humans; [2]
 - ii. Two prevention and control strategies directed to the reservoir of infection [2]
- c) 'Parasitic infections are a preventable cause of human suffering and mortality'. Discuss the statement, using examples. [10]

---END OF PAPER---