



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF HEALTH SCIENCES
UNIVERSITY EXAMINATION FOR DEGREE OF BACHELOR OF
ENVIRONMENTAL HEALTH
3rd YEAR 1st SEMESTER 2023/2024 ACADEMIC YEAR
MAIN CAMPUS

COURSE CODE: HCB 1309

COURSE TITLE: COMMUNICABLE DISEASE CONTROL AND PREVENTIONS

DATE:

TIME: 9.00-12.00 NOON

TIME: 2 HOURS

Instructions:

- 1. Answer all the questions in Section A and ANY other 2 questions in Section B.**
- 2. Candidates are advised not to write on the question paper.**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room.**

Answer all questions in section A – 30 marks.

Question 1: Describe the relationship of the following to disease transmission:

- a. Host *[1 marks]*
- b. Virulence *.....[1 marks]*
- c. Immunization *[1 marks]*
- d. Carrier state *[1 marks]*

Question 2: The chain model of infection explains the spread of a communicable disease from one host (or person) to another.

- a. Use this model to describe the risk factors associated with zoonoses: *[2 marks]*
- b. Describe the priority prevention and control interventions for schistosomiasis: *[2 marks]*
- c. Describe priority infection prevention and control steps for a slaughter house: *[2 marks]*

Question 3: Explain how the following factors are associated with transmission of airborne infections, such as TB, Influenza, COVID-19.

- a. Social clustering *[1 marks]*
- b. Population movements / connectivity *[1 marks]*
- c. Consistent adherence or compliance to prevention guidelines *[1 marks]*
- d. Seasonal effects of transmission *[1 marks]*
- e. Herd immunity *[1 marks]*

Question 4: Explain the differences between the following concepts:

- a. Endemic and pandemic *[2 marks]*
- b. Vector and reservoir *[2 marks]*
- c. Disease investigation versus disease intervention *[2 marks]*

Question 5: Answer the following questions in relation to infectious disease surveillance:

- a. Highlight the different methods of implementing disease surveillance *[2 marks]*
- b. Highlight some of the challenges associated with reporting priority infectious diseases in Kenya. *[2 marks]*
- c. Explain how the Integrated Disease Surveillance and Response (IDSR) program is being implemented in Kenya *[2 marks]*
- d. Describe any **three** key health promotion / health education messages regarding person-to-person (direct disease transmission) you would provide to the community members during a chief's Baraza. *[3 marks]*

SECTION B – 40 MARKS

Answer any two questions – 20 marks each

1. Airborne transmission may be the dominant form of transmission for several respiratory pathogens, including SARS-CoV-2. Further understanding of the mechanisms underlying infection from the airborne route will better inform mitigation measures.
 - a. Describe different factors that determines whether an infection occurs if one is exposed. *[6 marks]*
 - b. Describe how water, sanitation and hygiene practices may influence occurrence of airborne diseases. *[6 marks]*
 - c. Identify some of the adverse environmental factors associated with increased risks for airborne diseases. *[4 marks]*
 - d. List some of the guidelines for airborne infections prevention and control *[4 marks]*
2. Answer both of the following questions.
 - a. Describe any **TWO** (2) of the recommended prevention and control methods for the invasive soil transmitted infections. *[10 marks]*
 - b. Explain the relationship between latent period, infectious period, incubation period and clinical disease in relation to the natural history of infectious disease. *[10 marks]*
3. Highlight the ways by which the following interventions contribute to infectious disease prevention and control in Kenya.
 - a. Herd immunity *[4 marks]*
 - b. Health education and promotion *[4 marks]*
 - c. Handwashing *[4 marks]*
 - d. Vaccination *[4 marks]*
 - e. Screening *[4 marks]*