



UNIVERSITI KUALA LUMPUR  
INSTITUTE OF MEDICAL SCIENCE TECHNOLOGY

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**FINAL EXAMINATION**  
**MARCH 2025 SEMESTER**

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COURSE CODE : HDB31303  
COURSE TITLE : COMMUNITY HEALTH AND EPIDEMIOLOGY  
PROGRAMME NAME : BACHELOR OF BIOMEDICAL SCIENCE (HONOURS)  
DATE : 24 JUNE 2025  
TIME : 2:00PM - 5:00PM  
DURATION : 3 HOURS



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**INSTRUCTIONS TO CANDIDATES**

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1. Please read the instructions given in the question paper CAREFULLY.
2. This question paper is printed on both sides of the paper.
3. This question paper consist of TWO sections.
4. Answer ALL questions for Section A.
5. Section B consist of four questions. Answer THREE (3) questions only.
6. Please write your answer on the answer booklet provided.
7. Please answer all questions in English only.
8. Please answer MCQ/EMQ questions using OMR sheet.  *Tick if applicable*
9. Refer to the attached Formula/ Appendices.  *Tick if applicable*

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THERE ARE 15 PAGES OF QUESTIONS INCLUDING THIS PAGE

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**SECTION A (Total: 40 marks)**

**Answer ALL questions.**

**Please use the answer booklet provided.**

1. What is sarcopenia?
  - A. The loss of muscle mass as people age.
  - B. A mental health disorder.
  - C. A condition that causes joint inflammation.
  - D. A type of heart disease.
  
2. What is one way to avoid close contact with sick individuals?
  - A. Stay home when feeling unwell.
  - B. Visit sick friends regularly.
  - C. Share food with sick people.
  - D. Ignore symptoms of illness.
  
3. What can be inferred about the importance of hand hygiene?
  - A. It is only important during outbreaks.
  - B. It is unnecessary if you are healthy.
  - C. It is less effective than vaccination.
  - D. It helps remove germs and prevent illness.
  
4. How does vaccination contribute to public health?
  - A. It eliminates all diseases.
  - B. It is only effective for children.
  - C. It requires no follow-up.
  - D. It reduces the risk of spreading diseases.

5. How can families ensure they make informed decisions about reproductive health?
  - A. By following trends without research.
  - B. By seeking information and help when needed.
  - C. By ignoring medical advice.
  - D. By avoiding check-ups.
  
6. How can identifying risk factors help in public health?
  - A. It allows for targeted preventive healthcare measures.
  - B. It has no impact on public health.
  - C. It can lead to the development of new diseases.
  - D. It only benefits individual patients.
  
7. What does prevalence measure in a population?
  - A. Only new cases of a disease.
  - B. Total cases at a given time.
  - C. The rate of disease spread.
  - D. The effectiveness of treatments.
  
8. What does incidence refer to in epidemiology?
  - A. The average age of individuals affected by a disease.
  - B. The total number of existing cases of a disease.
  - C. The number of new cases of a disease in a specific time period.
  - D. The number of people who recover from a disease.

9. What is the significance of identifying risk factors in epidemiology?
- A. It focuses on individual health outcomes
  - B. It helps in developing new treatments.
  - C. It allows for targeted preventive measures.
  - D. It reduces the need for public health policies.
10. Which of the following is an effective method for preventing the spread of communicable diseases?
- A. Avoiding all contact with people.
  - B. Vaccination against diseases.
  - C. Drinking only bottled water.
  - D. Eating only cooked food.
11. What can be inferred about the flu based on its symptoms?
- A. It can cause significant discomfort and illness.
  - B. It is only contagious in the hot day.
  - C. It is a mild illness with no serious effects.
  - D. It primarily affects the digestive system.
12. Which disease is spread through vector-borne transmission?
- A. Influenza
  - B. Common cold.
  - C. COVID-19.
  - D. Malaria

13. What are communicable diseases caused by?
- A. Germs such as bacteria and viruses.
  - B. Poor diet and lack of exercise.
  - C. Genetic factors and hereditary conditions.
  - D. Environmental pollution and toxins.
14. Which of the following is NOT a healthy food choice?
- A. Chicken
  - B. Candy
  - C. Whole wheat bread
  - D. Carrots
15. What is a healthy eating habit for families?
- A. Eating alone in front of the TV.
  - B. Skipping meals.
  - C. Eating only junk food.
  - D. Eating meals together.
16. Which food group is important for strong bones and teeth?
- A. Fruits and Vegetables
  - B. Dairy
  - C. Grains
  - D. Proteins

17. Why are regular check-ups important for children?
- A. They allow children to skip exercise.
  - B. They are only for sick children.
  - C. They monitor growth and development.
  - D. They help children avoid school.
18. What is one way to support children's mental health?
- A. Talk openly about their feelings.
  - B. Encourage them to keep their feelings to themselves.
  - C. Tell them to stop feeling sad.
  - D. Ignore their emotions.
19. Which of the following is a sign of good mental health in children?
- A. Making friends and getting along with others.
  - B. Avoiding challenges.
  - C. Not expressing feelings
  - D. Always being alone.
20. What is a common misconception about mental health in children?
- A. Children can express their feelings.
  - B. Good mental health helps children enjoy life.
  - C. Mental health is only about being sad.
  - D. Mental health is important for overall well-being.

21. Which activity is NOT a recommended way for children to exercise?
- A. Watching TV.
  - B. Playing sports.
  - C. Playing outside.
  - D. Dancing.
22. What is a common misconception about communicable diseases?
- A. They can only be spread through direct contact.
  - B. They are caused by germs.
  - C. They are always severe and life-threatening.
  - D. They can be prevented with proper hygiene.
23. What is the key reason for regular health check-ups during adolescence?
- A. To reduce the need for vaccinations.
  - B. To increase stress levels.
  - C. To identify health issues early.
  - D. To avoid all health issues.
24. How does understanding sexual health benefit adolescents?
- A. It prevents all health issues.
  - B. It promotes informed decision-making.
  - C. It eliminates the need for education.
  - D. It helps them ignore relationships.

25. How does participating in sports benefit adolescents?
- A. It leads to more stress and anxiety.
  - B. It promotes better health and provides an outlet for stress.
  - C. It has no impact on physical health.
  - D. It decreases social interactions.
26. What can be inferred about the importance of nutrition during adolescence?
- A. It is only important for athletes.
  - B. It can be ignored if one is active.
  - C. It is not important for growth.
  - D. It helps to support growth and energy levels.
27. Which of the following is a common mental health issue faced by adolescents?
- A. Asthma
  - B. Diabetes
  - C. Obesity
  - D. Anxiety
28. What is a common misconception about mental health in adolescents?
- A. Mental health issues can be managed.
  - B. All adolescents are mentally healthy.
  - C. Adolescents do not experience stress.
  - D. Mental health issues are rare.

29. What is one emotional change that adolescents commonly experience?
- A. Stable moods.
  - B. Increased independence.
  - C. Less interest in friendships.
  - D. Decreased energy levels.
30. What is one of the physical changes that boys experience during adolescence?
- A. Menstruation
  - B. Growth of breasts.
  - C. Increased flexibility.
  - D. Deeper voices.
31. What is one of the main physical changes that boys experience during adolescence?
- A. Increased flexibility.
  - B. Shorter stature.
  - C. Growth of facial hair.
  - D. Decreased appetite.
32. What is the primary goal of health promotion?
- A. To conduct medical research.
  - B. To focus on hospital-based care.
  - C. To treat diseases.
  - D. To improve health and prevent illness by empowering individuals and communities.

33. Which term is used to describe the ability of a test to correctly identify those who have the disease?
- A. Reliability
  - B. Specificity
  - C. Validity
  - D. Sensitivity
34. Which of the following is **NOT** an example of health promotion?
- A. Organizing vaccination campaigns.
  - B. Educating communities about healthy eating.
  - C. Treating patients in the emergency room.
  - D. Conducting physical activity programs in schools.
35. What term describes the number of new cases of a disease in a population over a specific period of time?
- A. Attack rate
  - B. Prevalence
  - C. Mortality rate
  - D. Incidence
36. What is the primary focus of epidemiology?
- A. Development of new medical technologies.
  - B. Genetic engineering of organisms.
  - C. Diagnosis and treatment of diseases.
  - D. Study of the distribution and determinants of health and disease in populations.

37. What is the Ottawa Charter for Health Promotion?
- A. A guide on reducing healthcare costs.
  - B. A document outlining global disease management strategies.
  - C. A guide for developing new medications.
  - D. A framework that identifies key actions for health promotion.
38. What is one of the main strategies for promoting mental health?
- A. Promoting social connections and stress management.
  - B. Providing free medication to all patients.
  - C. Avoiding conversations about mental health issues.
  - D. Encouraging people to avoid all responsibilities.
39. Individuals from outside the community, such as judges, social workers, or anti-violence groups, initiating community organization are engaging in \_\_\_\_\_ organization.
- A. grass-roots
  - B. top down
  - C. bottom up
  - D. citizen initiated
40. The capability of a communicable disease agent to cause disease in a susceptible host is known as its \_\_\_\_\_.
- A. transmission
  - B. pathogenicity
  - C. chain of infection
  - D. infectivity

## SECTION B (Total: 60 marks)

Answer THREE (3) questions only.

Please use the answer booklet provided.

## Question 1

One thousand men working in 'M Corporation' factory in Thailand were screened for HIV, a communicable disease, on 1 January 2023 and 50 of them were found to be HIV-positive. When the screening was repeated on the same 1,000 men on 1 January 2024, 62 men were positive, including the 50 men who were positive on the first screening. Nobody had died or been lost to follow-up.

- (a) Evaluate the prevalence of HIV in men working in the 'M corporation' factory on 1 January 2023 and on 1 January 2024.

(6 marks)

- (b) Establish the annual risk of developing HIV infection in men working in the factory during 2023.

(5 marks)

- (c) Establish the odds of developing HIV infection in men working in the factory during 2023.

(4 marks)

- (d) Propose a communicable disease that has been eradicated. Discuss why eradication of this disease is possible.

(5 marks)

**Question 2**

Answer all questions. Be concise and provide examples where relevant.

- (a) Define communicable disease and give two examples relevant to community health.

(4 marks)

- (b) List four factors that contribute to the spread of communicable diseases in a community.

(4 marks)

- (c) Explain the role of vaccination in preventing communicable diseases.

(4 marks)

- (d) Describe two challenges faced by public health services in controlling outbreaks of communicable diseases.

(4 marks)

- (e) Suggest two strategies to improve community awareness and involvement in communicable disease prevention.

(4 marks)

**Question 3**

A coastal community has recently reported a surge in dengue fever cases, increased air pollution due to nearby industrial activities, and rising mental health issues among its adolescent population. The local health authority is concerned about the impact of these issues on overall community well-being.

- (a) Define the term contemporary health problems and provide two examples from the case. (4 marks)
- (b) Describe two possible public health impacts of the increase in dengue fever cases in the community. (4 marks)
- (c) Suggest two control or preventive measures that can be implemented to reduce dengue transmission. (4 marks)
- (d) Explain two possible effects of long-term air pollution on community health. (4 marks)
- (e) Discuss two public health approaches to address mental health issues among adolescents. (4 marks)

**Question 4**

Read the case below and answer the following questions

A team of community health practitioners has been assigned to a semi-urban area where residents face challenges such as poor sanitation, rising non-communicable diseases (NCDs), and limited access to health education. The team is expected to assess community needs, implement appropriate interventions, and collaborate with local stakeholders to improve public health outcomes.

- (a) Define community health practice and explain its importance in public health.  
(4 marks)
- (b) Identify and briefly explain two roles of community health practitioners in improving health in the given area.  
(4 marks)
- (c) Describe two contextual factors that might influence the success of community health programs in this setting.  
(4 marks)
- (d) Suggest two methods for assessing the health needs of the community.  
(4 marks)
- (e) Explain two benefits of involving local stakeholders in community health planning and intervention.  
(4 marks)

END OF EXAMINATION PAPER



