



**UNIVERSITY OF SWAZILAND**  
Faculty of Health Science

Department of Environmental Health  
Sciences

**Final Examination 2007**

TITLE OF PAPER : EPIDEMIOLOGY & COMMUNICABLE DISEASES  
COURSE CODE : HSC 303  
DURATION : 3 HOURS  
MARKS : 100  
INSTRUCTIONS : READ THE QUESTIONS & INSTRUCTIONS  
CAREFULLY  
: ANSWER ALL QUESTIONS  
: NO PAPER SHOULD BE BROUGHT INTO NOR OUT  
OF THE EXAMINATION ROOM

DO NOT OPEN THE QUESTION PAPER UNTIL PERMISSION HAS BEEN  
GRANTED BY THE INVIGILATOR.

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Question 1

Explain the following terms

[21 marks]

- a) Prevalence
- b) Incidence
- c) Cumulative incidence
- d) Incidence rate
- e) Relative risk
- f) Cross-sectional study
- g) Longitudinal study

Question 2

In a cross-sectional study of disease in two residential areas, the prevalence was twice as high (prevalence ratio = 2) in the exposed area as the unexposed. The unexposed area is a recently built suburb without health care facilities and the exposed is in the old city centre. What could be your conclusion about the effects of the exposure if (short answers!)

- a) The outcome is acute, non-infectious respiratory symptoms? [3 Marks]
- b) The outcome is chronic, non-fatal? [3 marks]
- c) Duration of illness depends on treatment? [3 Marks]

Question 3

A confidence interval for a point estimate is used to (choose one correct answer)

[3 Marks]

- a) *Tell if the estimate is exactly equal to the underlying population value*
- b) *Measure the variability of the estimate*
- c) *Tell a true from a false estimate*

Question 4

Describe the difference(s) between the two concepts in each pair?

- a) Cohort study and a Case-control study [4 Marks]
- b) Incidence rate and Cumulative incidence [4 Marks]

- c) Incidence and Prevalence [4 Marks]
- d) Disease prevalence and Exposure prevalence [4 Marks]
- e) Sensitivity and Specificity [4 Marks]

Question 5

The functions of public health surveillance include which of the following (Circle ALL that apply)

[5 Marks]

- A. *Collection of health data*
- B. *Analysis of health data*
- C. *Interpretation of health data*
- D. *Dissemination of health data*
- E. *Disease control actions developed from the collection, analysis and interpretation of health data*

Question 6

What is a communicable disease?

[1 Mark]

Question 7

Direct transmission includes which the of the following modes of transmission? (Circle ALL that apply)

[4 Marks]

- A. Droplet spread
- B. Vehicleborne transmission
- C. Vectorborne transmission
- D. Airborne transmission

Question 8

What is Tuberculosis? Discuss etiology, symptoms, susceptibility and mode of transmission

[8 Marks]

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Question 9

What is the difference between latent tuberculosis infection and tuberculosis disease?

[6 marks]

Question 10

What can people do to protect themselves against rabies?

[4 Marks]

Question 11

What is meningitis? Discuss etiology, symptoms, susceptibility and mode of transmission.

[8 Marks]