

UNIVERSITY OF SWAZILAND
FACULTY OF HEALTH SCIENCES

FINAL EXAMINATION PAPER – MAY 2010

TITLE OF PAPER : CONTROL OF COMMUNICABLE DISEASES

COURSE CODE : HSC 311

TIME : 2 HOURS

MARKS : 100

INSTRUCTIONS :

- : ANSWER **QUESTION 1** AND **FOUR OTHERS**.
- : QUESTION 1 IS COMPULSORY
- : EACH QUESTION IS 20 MARKS
- : NO FORM OF PAPER SHOULD BE BROUGHT INTO NOR TAKEN OUT OF THE EXAMINATION ROOM
- : BEGIN THE ANSWER TO EACH QUESTION ON A SEPARATE SHEET OF PAPER
- : ALL CALCULATIONS/WORKOUT DETAILS SHOULD BE SUBMITTED WITH YOUR ANSWER SHEET

Answer **QUESTION 1** and **ANY FOUR** others.

Question 1

MULTIPLE CHOICE : indicate your response by writing the letter corresponding to your chosen answer among those given for each item.

- i. Which one of the following organisms is an important reservoir of enterohaemorrhagic strains of *Escherichia coli* besides man?
 - A. Housefly
 - B. Cattle
 - C. Copepod
 - D. Pig
 - E. Freshwater fish

- ii. The first measles vaccine in infants at non-risk areas is given at
 - A. birth
 - B. 6 months
 - C. 4 – 6 years
 - D. 15 months
 - E. 9 months

- iii. The mumps virus is transmitted through
 - A. contaminated water
 - B. droplet spread
 - C. direct contact with saliva of infected person
 - D. arthropod bite during blood feeding
 - E. both B and C

- iv. Which of the the following statements about rubella is true?
 - A. Abortion is considered if infection occurs in early pregnancy
 - B. Vaccine against rubella is not recommended for anyone with immunodeficiency
 - C. International measures are not necessary in a rubella outbreak
 - D. All of the above
 - E. None of the above

- v. Which one of the following statements is true about polio in Swaziland?
 - A. Polio is endemic in Swaziland
 - B. Swaziland has been certified polio-free
 - C. Polio vaccination among children in Swaziland involves administration of oral polio vaccine drops
 - D. Polio vaccination coverage in Swaziland is above 80%
 - E. Both C and D

- vi. Which one of the following is NOT true about tuberculosis?
- Man is the only reservoir
 - It is an opportunistic disease among HIV-positive persons
 - The incubation period is about 4 – 12 weeks
 - Development of latent infection to clinical disease may be prevented with isoniazid
 - The risk of developing disease is highest in children under 3 years old
- vii. International measures to control TB could involve
- alertness at borders to recognise symptomatic individuals
 - x-ray screening of individuals from high prevalence countries
 - quarantine for those who are found with symptoms
 - vaccination of every immigrant at the point of entry
 - skin testing all HIV-positive immigrants with with Purified Protein Derivative (PPD) at the point of entry
- viii. Which of the following is not a contributory factor to high TB incidence?
- Poor socio-economic status
 - Indiscriminate sexual activity
 - Overcrowding
 - Poor ventilation
 - Insufficient nutrition and alcohol abuse
- ix. The infectious agent of Hepatitis A is found in
- blood
 - urine
 - saliva
 - lymph fluid
 - faeces
- x. Gonorrhoea is a disease that affects
- only certain races
 - people of all socio-economic levels
 - particularly young adult groups
 - rural more than urban populations
 - affects males more than females

Question 2

- a. Write down one causative agent of the following communicable diseases of man.
- | | | |
|------|-------------------------------------|-----|
| i. | Bacillary dysentery | (1) |
| ii. | Malaria | (1) |
| iii. | Typhoid fever | (1) |
| iv. | Acquired Immune Deficiency Syndrome | (1) |
| v. | Cholera | (1) |

- b. A 1-year old child suffers from a sudden bout of profuse diarrhoea.
- i. What dangers might befall the child if he/she does not reach a health facility quickly? (3)
 - ii. What steps could the mother of the child take to prevent development of adverse effects of the diarrhoea? (7)
 - iii. Mention *three* pathogens that could be responsible for the diarrhoea. (3)
 - iv. How do you think the child could have acquired the infection? (3)

[20 marks]

Question 3

Suppose you are a health worker at a community in the rural parts of Swaziland. An adjacent community reports an outbreak of cholera.

- a. What is the length of the incubation period of cholera ? (2)
- b. Explain the steps you would follow to try and achieve a definite diagnosis of the infection in anyone showing symptoms you suspect are cholera. (3)
- c. Outline the steps you would take in your community in order to prevent or minimise the impact of an outbreak in your own community. (7)
- d. If and when a case of cholera is confirmed from your area, what steps would you take to report and attend the case to prevent further transmission? (12)

[20 marks]

Question 4

Schistosomiasis remains a major problem among children in the rural areas of Swaziland with some schools recording prevalence rates higher than 80% in the past.

- a.
 - i. Write down two possible pathogens that may cause schistosomiasis in children in Swaziland. (2)
 - ii. Mention how a definite diagnosis of schistosomiasis may be achieved in the laboratory. (2)
 - iii. Mention one drug that may be used to successfully treat schistosomiasis in children. (1)
- b. Explain why schistosomiasis prevalence in children in Swaziland is common among children than adults. (5)
- c. Discuss a detailed analysis of the capacity of the Schistosomiasis Control Programme (SCP) in Swaziland, also assessing its ability to cope with the task in the next 20 years. (10)

[20 marks]

Question 5

- a. Briefly describe the symptoms associated with gonococcal infection in:
 - i. males (3)
 - ii. females (3)
- b. Explain how you may prevent transmission of gonococcal infection from an infected mother to a baby during birth. (4)
- c. Another common sexually transmitted infection of man besides gonococcal is syphilis.
 - i. Name the causative agent of syphilis. (1)
 - ii. Describe briefly, the symptoms of syphilis. (2)
 - iii. Describe the symptoms that result from untreated/complicated syphilis. (5)
 - iv. Mention three symptoms associated with congenitally transmitted syphilis in babies. (3)

[20 marks]

Question 6

- a. Mention two agents of typhoid disease in man. (2)
- b. Mention three media from which the pathogenic agent of typhoid may be recovered during diagnosis. (3)
- c. Name three domestic animals that are reservoirs of pathogenic agents of typhoid. (3)
- d. Explain how the pathogenic agent of typhoid is transmitted in humans. (4)
- e. Discuss FOUR strategies you may implement to reduce incidence of typhoid in a rural community. (8)

[20 marks]

Question 7

HIV testing and counselling is an important preventive measure for raising awareness of HIV status, promoting behaviour change and diagnosing infection.

- a. Mention four groups of persons in which HIV testing and counselling is important. (4)
- b. i. Why is it important for a patient who discovers that he/she is HIV-positive to disclose the status to his/her sexual needle-sharing partners? (2)
- ii. If the patient continuously refuses to inform his/her partners even after counselling, can the health worker do so? If yes, what precautions should the health worker take into consideration before informing the partners? (3)
- c. Other than HIV testing and counselling, discuss three other strategies or interventions used in Swaziland to lower the incidence of HIV infection. (6)
- d. Giving reasons for your answers, explain if:
 - i. HIV-positive children can receive the BCG vaccine (2)
 - ii. HIV-positive mothers can breastfeed their babies (3)

[20 marks]