UNIVERSITY OF SWAZILAND

FACULTY OF HEALTH SCIENCES

(SECOND SEMESTER)

FINAL EXAMINATION PAPER
May 2009

COURSE CODE: NUR 521

COURSE TITLE: COMMUNITY HEALTH NURSING IV

TIME ALLOWED: 2 HOURS

MARKS ALLOCATED: 75

INSTRUCTIONS:

1)   THIS PAPER CONTAINS THREE (3) QUESTIONS
2)   ANSWER EACH QUESTION ON A SEPARATE SHEET OF PAPER.

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

QUESTION 1

A   **MULTIPLE CHOICE QUESTIONS**
Write the letter next to the statement that it best describes e.g 1 = m

1   Epidemiologists are interested in learning about:

   a)   The causes of the disease and how to cure them or
          control them
   b)   The frequency and geographic distribution of diseases
   c)   The causal relationships between diseases
   d)   all of the above

2.   Diseases that are always present in a community, usually at a low more or
         less constant, frequency are classified as having an................pattern
   a)   Epidemic
   b)   Endemic
   c)   Pandemic
   d)   None of the above

3.   Which of the following statements is true concerning epidemic diseases?
   a)   They are usually not very contagious
   b)   At the end of an epidemic, a disease spreads at an increasing rate
          and abruptly disappears
   c)   They usually appear and disappear seasonally
   d)   None of the above

4.   An epidemic that becomes unusually
         widespread and even global in its reach is referred to as
         a..?
   a)   Pandemic
   b)   Hyper endemic
   c)   Spanish flu
   d)   Endemic

5. A disease vector is a (n)

   a).   organism that transmits a disease
   b)   Symptom of a disease
   c)   Environmental condition associated with a disease
   d)   a and c

6 The first table (Table 1) shows the total number of persons who ate each of two specified food items that were possibly infective with group A streptococci. The second table (Table 2) shows the number of sick persons (with acute sore throat) who ate each of the various specified combinations of food items. Question 6 and 7 are based on the information contained in the tables

Table 1	Ate Tuna	Did not eat Tuna
Ate egg salad	75	100
Did not eat egg salad	200	50

Table 2	Ate Tuna	Did not eat Tuna
Ate egg salad	60	75
Did not eat egg salad	70	15

What is the sore throat attack rate in persons who ate both? egg salad and tuna?
a)   60/75
b)   70/200
C)   60/135
d)   60/275
e)   None of the above

7 According to the results shown in the preceding tables, which of the following food items (or combination of food items) is most likely to be infective?
a)   Tuna only
b)   Egg salad only
c)   Neither tuna nor egg salad
d)   Both tuna and egg salad
e)   Cannot be calculated

8 Age-adjusted death rates are used to:

a)   Correct death rates for errors in the statement of age
b)   Determine the actual number of deaths that occurred in specific age groups in a population
c)   Correct death rates for missing age information
d)   Compare deaths in persons of the same age group
e)   Eliminate the effects of differences in the age distribution of populations in comparing death rates

9   The mortality rate from disease X in city A is 75/100,000 in persons aged 55 to 69 years old. The mortality rate from the same disease in city B is 150/100,000 in persons 65 to 69 years old. The inference that disease X is 2 times more prevalent in persons 65 to 69 in City B than it is in persons 65 to 69 years old in city A is:

a)   Correct
b)   Incorrect because of the failure to distinguish between prevalence and mortality
c)   Incorrect because of the failure to adjust for different age groups
d)   Incorrect because of failure to distinguish between period and point prevalence
e)   Incorrect because a proportion is used when a rate is required to support the inference

10   The incidence rate of a disease is five times greater in women than in men, but the prevalence rates show no sex difference. The best explanation is that:

a)   The crude-al-cause mortality is greater in women
b)   The case-fatality for this disease is greater in women
c)   The case-fatality for this disease is lower in women
d)   The duration of this disease is shorter in men
e)   Risk factors for this disease are more common in women

11.   In cohort studies of the role of a suspected factor in the etiology of a disease, it is essential that:

a)   There be equal numbers in both the study groups
b)   At the beginning of the study, those with the disease and those without the disease have equal risks of having the factor
c)   The study group with the factor and the study group without be representative of the general population
d)   The exposed and unexposed groups under the study be as similar as possible with regard to confounding factors
e)   Both b and c

12   Which of the following is not an advantage of a prospective cohort study?

a)   It usually costs less than a case-control study
b)   Precise measurement of exposure is possible
c)   Incidence rates can be calculated
d)   Recall bias is minimized compared with a case-control study
e)   Many outcomes can be studied simultaneously

13. Retrospective cohort studies are characterized by all of the following except:

a) The study groups are exposed and nonexposed
b) The incidence rates may be computed
c) The required sample size is smaller than the needed for a prospective cohort study
d) The required sample size is similar to that needed for a prospective study
e) They are useful for rare exposures

14 Residents of three villages with three different types of water supply were asked to participate in a survey to identify cholera carriers. Because several cholera deaths had occurred recently, virtually everyone present at the time of underwent examination. The proportion of residents in each village who were carriers was computed and compared. What is the proper classification for this study?

a) Cross sectional study
b) Case control study
c) Concurrent cohort study
d) Non-concurrent cohort study
e) Experimental study

15. In a small pilot study, 12 women with endometrial cancer and 12 women with no apparent disease were contacted and asked whether by age, race, weight and parity to a woman without the disease. What kind of study design is this?

a) Concurrent cohort
b) Retrospective cohort
c) Case-control
d) Cross-sectional
e) Experimental

16 Which of the following is an approach to handling confounding?

a) Individual matching
b) Stratification
c) Group matching
d) Adjustment
e) All of the above

17 The major purpose of random assignment in a clinical study is to:

a) Help ensure that the study subjects are representative of the general population
b) Facilitate double blinding
c) Facilitate the measurement of outcome
d) Ensure that the study groups have comparable baseline characteristics
e) Reduce selection bias in the allocation of treatment

18 Specific objectives of epidemiology include the following:

a To identify the etiology or cause of a disease and the risk factos
b To determine the extent of disease found in a community
c To study the natural history
d a and b
e all the above

19 Certain conditions must exist for herd immunity to occur. These include the following:
a) The disease agent must be restricted to a single host species within which transmission occurs.
b) Infections must induce solid immunity
c) Herd immunity operated optimally when when populations are constantly mixing together.
d) a and b
e) all the above

20 In the study of an outbreak of an infectious disease, plotting an epidemic curve is useful because:
a) It helps to determine what type of outbreak has occurred
b) It shows whether herd immunity has occurred
c) It helps to determine the median incubation period
d) a and c
e) a, b, and c

21 Which of the following is characteristic of a single exposure, common vehicle outbreak?

a) Frequent secondary cases
b) Increasing severity with increasing age
c) Explosive
d) Cases include both people who have been exposed and those who were not exposed
e) All of the above

22   All of the following are measures of health care in a clinic except:

a)   Proportion of patients in whom blood pressure is measured
b)   Proportion of patients who have complications of a disease
c)   Proportion of patients advised to stop smoking
d)   Proportion of patients whose height and weight are measured
e)   Proportion of patients whose bill is reduced because of financial constraints

23   The extent to which a specific health care treatment, service, procedure, program or other intervention does what it is intended to do when used in a community dwelling population is:

a)   Efficacy
b)   Effectiveness
c)   Effect modification
d)   Efficiency
e)   None of the above

24   Factor A, B or C can each individually cause a certain disease without the the other two factor is not followed by the disease, but the disease never occur in the absence of exposure to factor X. Factor X is:

a)   A necessary and sufficient cause
b)   A necessary, but not sufficient cause
c)   A sufficient but not necessary cause
d   Neither necessary nor sufficient
e)   None of the above

25   Factor A is:

a)   A necessary and sufficient cause
b)   A necessary, but not sufficient cause
c)   A sufficient, but not necessary cause
d)   Neither necessary nor sufficient
e)   None of the above

Total marks.. [25]

QUESTION 2

A. A research group wanted to study risk factors for suicide attempts among adolescents. They were able to enrol 100 adolescents who had attempted suicide, and selected 200. One of the factors they want to investigate is a history of substance abuse. Through a questionnaire and other medical records, they determine that 68 of the 100 adolescents who had attempted suicide had a history of substance abuse, whereas 36 of the 200 adolescents with no suicide attempt had such a history.

i)   What type of study is this?... [1]

ii) Calculate the odds ratio... [10]

ii) How would you interpret the result.. [4]

B   Suppose we have a hypothetical population of 1000 people, of whom 100 have a certain disease and 900 do not have the disease. Of the 100 with the disease 80 were correctly identified as positive by the test and a positive identification was missed in 20.

i)   Calculate the sensitivity of the physical examination..................... [5]
ii) Calculate the specificity of the physical examination..................... [5]

TOTAL MARKS... [25]

QUESTION 3

Explain how you would carry out an investigation for an outbreak in a community where an epidemic of cholera has been reported....................................[25]

TOTAL MARKS... [25]