TECHNICAL UNIVERISTY OF MOMBASA

Faculty of Applied & Health Sciences

DEPARTMENT OF ENVIRONMENTAL & HEALTH SCIENCES

DIPLOMA IN COMMUNITY HEALTH & HIV MANAGEMENT

APH 2202: FUNDAMENTALS OF EPIDEMIOLOGY

END OF SEMESTER EXAMINATION
SERIES: DECEMBER 2014
TIME: 2 HOURS

<u>**Instructions to Candidates:**</u>
You should have the following for this examination
- *Answer Booklet*

This paper consists of **FIVE** questions. Attempt question **ONE (Compulsory)** and any other **TWO** questions
Maximum marks for each part of a question are as shown

This paper consists of **TWO** printed pages

Question One (Compulsory)

a) Define:
    (i)   Surveillance
    (ii)   Cause of disease
    (iii) Natural history of disease   **(3 marks)**

b) Briefly explain the importance of epidemiology in the cause of Malaria epidemic.   **(4 marks)**

c) Distinguish between ratio and rate   **(4 marks)**

d) State TWO types of surveillance   **(2 marks)**

e) Briefly explain the following in descriptive epidemiology:
    (i)   Time
    (ii)   Place
    (iii) Personal variables   **(6 marks)**

f) State key factors that depicts the relationship in the occurrence of a disease.   **(3 marks)**

g) State TWO types of health surveys.   **(2 marks)**

h) Briefly explain the difference between epidemic and pandemic.   **(4 marks)**

i) Define non communicable diseases.   **(2 marks)**

Question Two

The following information is about Nakuroi which was collected for the year 2010.

- Total average population – 40,000
- Total number of live births – 4,000
- Total number of deaths – 400
- Total number of deaths before the age of 28 days – 50
- Total number of infant deaths – 200
- The number of women who died from pregnancy related causes – 160
- New cases of tuberculosis – 100
- All cases of tuberculosis – 300
- Deaths from tuberculosis – 60

Based on the above information, calculate the following. The incidence rate, the period prevalence rate, the case fatality rate, the Neo-Natal Mortality rate, the infant mortality rate and the maternal mortality ratio.   **(15 marks)**

Question Three

Describe the different steps in the investigation of epidemic.   **(15 marks)**

Question Four

Discuss the problems related to health service records as source of health data.   **(15 marks)**

Question Five

a) Briefly explain epidemiology. **(5 marks)**

b) Explain FIVE uses of epidemiology. **(10 marks)**