CHUKA   **UNIVERSITY**

UNIVERSITY EXAMINATION
RESIT/SUPPLEMENTARY / SPECIAL EXAMINATIONS
EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN HEALTH RECORDS AND INFORMATION

HRIM 225: EPIDEMIOLOGY FOR HEALTH RECORDS AND INFORMATION MANAGER II

STREAMS: **TIME: 2 HOURS**

DAY/DATE: FRIDAY 05/11/2021   **11.30 A.M - 1.30 P.M.**

INSTRUCTIONS

1. Section A is compulsory
2. Question **two in section B** is compulsory
3. Answer any other one question in section B

SECTION A. ANSWER ALL QUESTIONS 40 MARKS

Question one:

a. Distinguish incidence rate (IR) incidence proportion (IP) giving examples [6 marks]

b. Describe the three (3) major types of epidemiologic studies   [6 marks]

c. Explain any six (6) uses of epidemiology   [6 marks]

d. With examples, explain the three (3) levels of disease prevention   [6 marks]

e. Describe any three types of disease that require outbreak investigation. Give an example in each category   [6 marks]

f. Discuss the following measures of Morbidity giving formulas

    a. Point Prevalence   [3 Marks]

    b. Period prevalence   [3 Marks]

g. Outline four factors that may lead to decrease and four factors that may lead to increase in prevalence of a disease in particular community [4 Marks]

SECTION B – ATTEMPT QUESTION TWO, AND ANY OTHER ONE

Question two

a. During a study of 20 years five people are followed to measure the occurrence of upper respiratory tract infection. As this infection can occur more than once, all disease events are included in this study. 1 person was lost to follow-up after 1.5 years. 2 persons died respectively after 10 and 15 years from a different cause. 1 person got the first respiratory tract infection after seven years, and the second infection after 12 years of follow-up. Both infections took half a year of recovery. One person is followed-up until the end of the study period without occurrence of disease. Calculate the incidence rate in this study. Show your working. [7 marks]

b. An epidemiologist in Kenya wants to test a new Covid 19 test. Explain the following terms that may be associated with the test [8 marks]

    i. sensitivity
    ii. positive predictive value
    iii. specificity
    iv. negative predictive value

Question three

a. A diabetes test is being applied in a population of 5000 men. Previous evaluation of the diabetes test in a different population showed a sensitivity of 70% and an specificity of 80%. The prevalence of diabetes is 0.5%. What is the diagnostic value of a positive test in this situation? Show how you arrive at the answer.

[6 marks]

iii. Define the natural history of disease and outline the four stages of disease progression that a an infection of HIV for example will undergo [9 marks]

<u>Question four</u>

You intend to carry out an epidemiological study on prevalence of malaria in country X, describe any five sources of epidemiological data that will help you achieve the goal of this study and two examples of data that you generate from each of the said sources. [15 Marks]

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