



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF HEALTH SCIENCES
UNIVERSITY EXAMINATION FOR DEGREE OF MASTER PUBLIC HEALTH
1ST YEAR 1ST SEMESTER 2022/2023 ACADEMIC YEAR
KISUMU CAMPUS**

COURSE CODE: HMP 5112

COURSE TITLE: PRINCIPLES OF EPIDEMIOLOGY

EXAM VENUE:

STREAM:

DATE:

EXAM SESSION:

TIME:

3.00 HOURS

Instructions:

1. Answer **Question ONE (compulsory)** and any other **THREE** questions.
2. Candidates **MUST** not to write anything on the question paper.
3. Candidates **MUST** hand in their answer booklets to the invigilator while in the examination room.

Answer question ONE and THREE other questions.

1. (a) In 2001, a total of 15,555 homicide deaths occurred among males and 4,753 homicide deaths occurred among females. The estimated 2001 midyear populations for males and females were 139,813,000 and 144,984,000, respectively.

- i. Estimate the homicide -related death rates for males and females
- ii. What type(s) of mortality did you estimate in part i above?
- iii. Estimate the ratio of homicide-mortality rates for males and females
- iv. Interpret the rate you estimated in part iii as if you were presenting information to a policymaker (9 marks).

(b) Incidence and prevalence rates are measures of risk. Explain why estimation of incidence rates are preferred to estimates of prevalence rates in studies of causes of disease. (6 marks).

2. Describe Epidemiology with reference to the following concepts

- a. Population or Community Health Assessment (4 marks)
- b. Individual decisions (4 marks)
- c. Completing the clinical picture (3 marks).
- d. Search for causes (4 marks).

3. Descriptive Epidemiology organizes and summarizes data according to time, place and person. Explain why this is desirable (15 marks).

4. (a) Make short notes on Epidemiologic Triad: Agent, Host and Environment (9 marks).

(b) Use the Agent-Host-Environment model to describe the role of the human immunodeficiency virus (HIV) in AIDS (6 marks).

5. Potentially, screening could be done for every disease for which there is a diagnostic test or diagnostic signs and symptoms. Discuss criteria, of Wilson and Jungner, used to guide the rational development of screening programs (15 marks).