JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY.
UNIVERSITY EXAMINATIONS FOR MASTER OF SCIENCE IN EPIDEMIOLOGY AND BIOSTATISTICS/BIOMEDICAL/MPH.
1ST YEAR 1ST SEMESTER 2023/2024 ACADEMIC YEAR
KISUMU CAMPUS

COURSE CODE: **HMP 5112**
COURSE TITLE: **Principles Of Epidemiology**
EXAM VENUE: **STREAM: (MSc/MPH)**
DATE: **EXAM SESSION:**
TIME: **TIME ALLOWED: 3.00 HOURS**

Instructions:
1. Answer **QUESTION ONE** and **THREE** other questions.
2. Candidates are advised not to write 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) "Study of distribution of health related events" is an important principle in epidemiology. Discuss why this is important (9 marks).
(b) Some of the uses of epidemiology are:
i. Search for causes
ii. Individual decision
iii. Population or community health assessment.
Explain each of them (6 marks).

2. (a) Case definition is a set of standard criteria for deciding whether a person has a particular disease or other health related condition. Explain how epidemiologists carry out case definition during an outbreak of measles (6 marks).
(b) Discuss importance of determining rates after making simple counts of cases (9 marks).

3. (a) Secular trends is an example of common types of time-related graphs used in descriptive epidemiology. Explain how this graph may be used by an epidemiologist (6 marks).
(b) In descriptive epidemiology data is organized and analyzed by several person categories. By giving examples, discuss these categories (9 marks).

4. (a) Use the Agent-Host-Environment model of disease causation to describe the role of the human immunodeficiency virus (HIV) in AIDS (6 marks).
(b) Explain common sources of surveillance data at local level (9 marks).

5. (a) The following are types of prevalence rates:
i. Point prevalence rate (3 marks).
ii. Period prevalence rates (3 marks).
iii. Lifetime prevalence rate. (3 marks).
Explain each of them and give examples of how it may be used.
(b) The main aim of screening is to reverse, halt, or slow the progression of disease more effectively than would normally happen. Explain the purposes of screening (6 marks).

6. (a) Discuss reasons for continuing with immunization programs as the diseases and infections caused by vaccine-preventable diseases continue to decline (9 marks).
(b) Explain scenarios between agent and susceptible host that may cause an epidemic (6 marks).