



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF HEALTH SCIENCES

UNIVERSITY EXAMINATION FOR THE DEGREE OF MASTER OF SCIENCE

(EPIDEMIOLOGY AND DISEASE CONTROL/BIOSTATISTICS)

1ST YEAR 1ST SEMESTER 2024/2025 ACADEMIC YEAR

KISUMU CAMPUS

COURSE CODE: HES 5112

COURSE TITLE: DEMOGRAPHY AND POPULATION HEALTH

EXAM VENUE: STREAM: MSc (Epidemiology & Disease Control/ Biostatistics)

DATE: 13/1/25 EXAM SESSION: 9-12.00 NOON

TIME: 3.00 HOURS

Instructions:

- 1. Answer question ONE and THREE other questions.**
- 2. 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 the Malthusian Population Growth Theory, one of the positive checks suggested on human biological reproduction control is to discourage early marriages. By giving examples, explain how Kenya is performing in this area (9 marks).

b. Discuss limitations of demographic and health surveys (6 marks).

2. a. Monitoring, surveillance and investigation of health threats are vital capabilities of an effective health system. Describe how the following surveillance strategies may be used:

- i. Sentinel surveillance
- ii. Community-based surveillance and investigations (6 marks).

b. Census is one of the main sources of demographic data. Discuss the disadvantages of census as a source of data (9 marks).

3. a. Many international public health professionals believe that the response to global health concerns must be a stronger global public health system. Discuss critical action points to respond to global health concerns (9 marks).

b. Surveys can provide information on health indicators for the whole population. Explain the kind of data you would collect on the following indicators:

- i. Child morbidity
- ii. Maternity care (6 marks).

4. a. Consider Country A with census data at two different points in time.

August 2010, population - 36 284 321

August 2020, population - 50 641 118. Estimate:

- i. Intercensal growth
- ii. Annual growth
- iii. Arithmetic growth rate (6 marks).

b. You have been co-opted as a member of a national health team tasked with planning a national burden of disease study. Explain what you would wish done to come up with a clear planning blue print (9 marks).

5. a. Many of the indexes used in demography translate aggregate-levels processes into statements about the demographic circumstances faced by an average or randomly chosen individual. Explain the following indexes:

- i. Life expectancy at birth
- ii. Total fertility rate (6 marks).

b. Discuss the most important ways that infectious diseases are affected by globalization (9 marks).