



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY  
SCHOOL OF HEALTH SCIENCES**

**UNIVERSITY EXAMINATION FOR DEGREE OF MASTER OF SCIENCE  
EPIDEMIOLOGY AND BIostatISTICS**

**1<sup>ST</sup> YEAR 2<sup>ND</sup> SEMESTER 2018 ACADEMIC YEAR**

**KISII CAMPUS**

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**COURSE CODE: HES 5112**

**COURSE TITLE: DEMOGRAPHY AND POPULATION HEALTH**

**EXAM VENUE: STREAMS: (MSC.EPID &BIostatISTICS.)**

**DATE: December, 2018**

**EXAM SESSION:**

**TIME: 3 HOURS**

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**Instructions:**

- 1. Answer question ONE (1) and any other THREE (3)**
- 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**

**QUESTION ONE COMPULSARY (15 marks)**

- a) Differentiate between each of the following pairs of terms as they relate to demography and population health
- i. Fecundity and Fertility (2 marks)
  - ii. Maternal Mortality Ratio and Neonatal Mortality Ratio (2 marks)
  - iii. Total Fertility Rate (TFR) and Crude Birth Rate (CRR) (2 marks)
- b) Suppose that a population of a country is quoted as being 6449558 in 1979 and 9456466 in 1989. Using the concept of population projections, find the mean annual Rate of population increase for this country, the population in 1987, the population in 1995 and the doubling time for this population (6 marks)
- c) List any six (6) specific objectives of Kenya's population policy. (3 marks)

**QUESTION TWO (15 marks)**

- a) Assume that you have been requested to carry out a demographic study in regard to immigration patterns in a certain area. What are the main questions that you would capture in your questionnaires? (7 marks)
- b) Discuss with relevant examples, the limitations of survey and census data in tracking health related indicators of the Sustainable Development goals (8 marks)

**QUESTION THREE (15 marks)**

- a) Explain the objectives of demography in relation to Kenya Health Policy. (6 marks)
- b) Explore the major components of demography (4 marks)
- c) Compute the rate of natural increase from the following summarized information  
Population as at 1<sup>st</sup> January 2000 is 10554, and during the year 2000, we have that;

Births	456
Deaths	215
Immigrants	40
Emigrants	145

The population as at 1<sup>st</sup> January 2001 is 10690 (5 marks)

**QUESTION FOUR (15 marks)**

- a) Compare and contrast the features of the Demographic Transition Model (TDM) and the Malthusian theory of population. (8 marks)
- b) Describe how the Mosley and Chen proximate determinants frame work can be utilized to design an intervention to improve neonatal and Child health indicators within your county of origin. (7 marks)

**QUESTION FIVE (15 marks)**

- a) Discuss two (2) techniques used in conducting census clearly articulating their advantages and disadvantages (8 marks)
- b) List and explain Four (4) steps in population census procedure (7 marks)