

UNIVERSITY OF SWAZILAND
DEPARTMENT OF STATISTICS AND DEMOGRAPHY
EXAMINATION PAPER 2014

COURSE TITLE: POPULATION ESTIMATES AND PROJECTIONS

COURSE CODE: DEM 301

TIME ALLOWED: TWO (2) HOURS

INSTRUCTIONS: ANSWER ANY THREE (3) QUESTIONS

SPECIAL REQUIREMENT: CALCULATOR

QUESTION 1

6+6+6+6=30

- a. Discuss each of the following curves stating their advantages, disadvantages and suitability in population estimates
- i. Arithmetic growth curve
 - ii. Geometric growth curve
 - iii. Exponential
 - iv. Logistic curve
- b. The Component Method of population estimation tends to be unsuitable for use in developing countries. Explain why

QUESTION 2

15+10+5=30

- a. Given the population of Swaziland during the following years estimate the population in 2017;

30th June 1986 494,534

30th June 1997 681,058

30th June 2007 929,718

Using:

- i. The linear equation
 - ii. The geometric annual equation
- b. Explain fully how mathematical projection methods differ from component methods in population projections.
- c. What are the limitations of model populations in projections?

QUESTION 3

15+15=30

Outline the computational procedure in the following methods:

- a. Census- Cohort Change Method
- b. Period Fertility Method

QUESTION 4

10+6+4+5+5=30

- a. Briefly discuss the rationale and uses of variants in population projections.
- b. Discuss each of the following Demographic terms
 - i. Intercensal estimate
 - ii. Postcensal estimate
 - iii. Population projection
- c. What are absolute and relative measures?
- d. What is the difference between a projection and forecast?
- e. Contrast stochastic models and deterministic models.