UNIVERSITY OF SWAZILAND

DEPARTMENT OF STATISTICS AND DEMOGRAPHY

FINAL EXAMINATION PAPER

COURSE TITLE: POPULATION ESTIMATES AND PROJECTIONS

COURSE CODE: DEM 301

TIME ALLOWED: TWO (2) HOURS

INSTRUCTIONS: ANSWER ANY THREE (3) QUESTIONS

SPECIAL REQUIREMENTS: CALCULATOR

QUESTION 1

a) What are variants in Population Projections   [4]

b) Briefly discuss the uses of variants   [6]

c) Show how in the calculation of the projected number of births using the
Period-Fertility Method, the total number of births per annum is estimated.
Use a fictitious example to illustrate your answer   [15]

QUESTION 2

a) When using the Census Cohort-Change Method, different computational
procedures are employed for ages less than and above 10 years. Outline
clearly all these procedures.   [20]

b) What are Post Censal estimates and how do they differ from projections
                                                                                  [5]

QUESTION 3

a) The Component Method of population estimation tends to be unsuitable
for use in Developing countries. Explain why.   [5]

b) The Arithmetic Growth Progression is simpler than the Geometric
Progression Curve. It has, however, certain advantages. Outline the
advantages of the Arithmetic progression over the Geometric progression.
                                                                                  [15]

c) What are Person-years lived and how do they differ from the Mid-interval
concept.   [5]

QUESTION 4

a) The use of the Logistic Curve Model in Population projections has
been minimal.
   i) State the formula for the Logistic Curve Model   [5]
   ii) Discuss briefly the reasons behind the non-use of this model
   in population projections   [8]

b) Show how interpolation between two census counts can be done   [4]

c) Given a population of a country which grew geometrically from
30 376 786 to 36 506 655 in 5 years, Estimate her population 5 years after
the last census   [8]

QUESTION 5

a) What are the disadvantages of the Geometric Growth Curve   [12]

b) What are the major uses of Population Projections   [4]

c) What are Short-term; Middle-range; and Long-range projections, and in
what circumstances is each of these projections used.   [9]