UNIVERSITY OF SWAZILAND

DEPARTMENT OF STATISTICS AND DEMOGRAPHY

MAIN EXAMINATION 2014

TITLE OF PAPER	:	INTRODUCTION TO DEMOGRAPHY
COURSE CODE	:	DEM 101
TIME ALLOWED	:	TWO (2) HOURS
INSTRUCTIONS	:	ANSWER ALL QUESTIONS; SHOW ALL YOUR WORKINGS WHERE APPLICABLE.
REQUIREMENTS	:	CALCULATOR

THIS PAPER SHOULD NOT BE OPENED UNTIL PERMISSION HAS BEEN GRANTED BY THE INVIGILATOR

Question 1 **[Total=25 marks]**

a. Give four reasons why age is an important demographic variable. [4]
b. Briefly explain what is meant by the following two terms: [4]
   i. Age heaping
   ii. Age shifting
c. Compare and contrast each pair of concepts listed below:
   i. Coverage errors and content errors; [2]
   ii. Old population and young population; [2]
   iii. De jure census and De facto census; and [2]
   iv. Prospective surveys and retrospective surveys. [2]
d. Describe three problems of particular relevance to Africa in setting up and maintaining a countrywide civil registration system. [3]
e. Explain four problems associated with measuring migration. [4]
f. Outline the essential features of a population register. [2]

Question 2 **[Total=25 marks]**

a. Using information from the table below for a certain region in country A, answer the following questions, using the geometric growth formula for 2a(iii)-(vi):

Year	Mid-year population
1980	3712
1990	4521
2000	5213
2010	6167

i. What was the relative per cent change in the region of country A in **each** decade? [3]

ii. Calculate the average annual numerical increase in the population in each decade. [3]

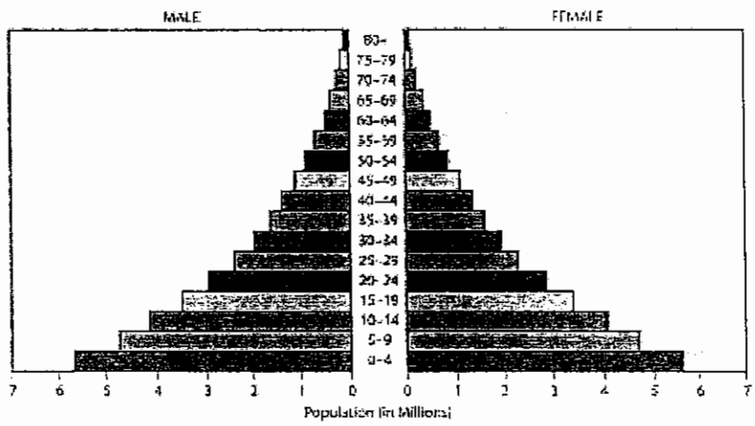
iii. Calculate the average annual growth rate in per cent in each decade. [3]

iv. Using your answers in part iii), how long would the population in the region of country A take to triple for each decade? [3]

v. What assumption(s) are you to making to reach your answer in part (iv)? [3]

vi. Using the average growth rate from (iii), estimate the year in which the population reached 2.5 million. [2]

b. The figure given below belongs to a population of a country B.



i. Interpret fully the figure above for Country B. [4]
ii. State two measures of population composition and write their respective formula. [4]

Question 3 [Total=25 marks]

a. The data given in table below is for a certain developing African country in 1990.

Mid-year female population and per cent distribution of live births by maternal age, 1990

Age	Female population	Per cent distribution of live births
10-14	15,200	0.46
15-19	18,120	2.95
20-24	20,255	29.51
25-29	21,124	27.57
30-34	19,687	18.97
35-39	27,899	14.52
40-44	24,784	4.45
45-49	22,123	1.57

In addition, the following information is provided for the same year:

Total female population	340,100
Children under five years	96,100
Girls under five	51,522
Total live births	10,200
General sex ratio	98
Sex ratio at birth	102
Post neonatal deaths	109
Neonatal deaths	147
Early neonatal deaths	107
Still births	200
Maternal deaths	243

Using the information given above to answer the questions for 3a(i)-viii):

i. Calculate the crude birth rate and interpret your answer; [4]

ii. Calculate the general fertility rate; [2]

iii. Calculate the total fertility rate and comment on your answer; [7]

iv. Calculate the gross reproduction rate; [2]

v. Calculate the infant mortality rate and comment on your answer; [4]

vi. Calculate the child woman ratio; [2]

vii. Calculate the maternal mortality ratio; [2]

viii. Calculate the maternal mortality rate. [2]