UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER 2007

TITLE OF PAPER: INTRODUCTION TO DEMOGRAPHY

COURSE CODE   :   DEM 101

TIME ALLOWED :   TWO (2) HOURS

INSTRUCTIONS :   ANSWER QUESTION 1 AND <u>ANY OTHER TWO</u> <u>(2)</u> QUESTIONS.

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QUESTION 1   (Compulsory) ·   (5+3+3+3+3+3)

a.   Define the demographic usage of the term fertility, and distinguish between
period and cohort analysis of fertility.

Mid-year Female Population and Live Births by Maternal Age, 1991

Age	Female Population	Live Births
15-19	18,000	299
20-24	20,000	3 008
25-29	21,000	2 814
30-34	19,000	1 938
35-39	27,000	1 485
40-44	24,000	456
15-44	129,000	10 000
All ages	315 000	10122

Note: General Sex Ratio =90.5

Maternal and Infant Deaths and Still births, 1991

Maternal deaths	3
Infant deaths	210
Neonatal deaths	126
Early neonatal deaths	106
Still births	200

b.   Using the above data on population, births and deaths, calculate the following:
   i.   Crude Birth rate
   ii.   General fertility rate
   iii.   Total fertility rate
   iv.   Infant mortality rate
   v.   Maternal mortality rate.

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QUESTION 2   **(4+5+5+6marks)** ·

Country X is currently growing at an annual rate of 4.5 percent. The country has a population of 18.1 million and a land area of 913 million square feet.

- a.   If the present growth rate persists, in how many years will the population of country X triple in size?

- b.   At this rate of growth how many years will it take for there to be one resident per square foot of Country X's soil?

- c.   If the rate of growth is constant at 4.5 percent for ten years and then falls to 3.0 percent for the next ten years, what will the size of the population be in twenty years?

- d.   What is meant by doubling time? Compute the doubling time for a population growing at 1 percent per annum.

QUESTION 3   **(8 +8+4 marks)**

- a.   "Vital statistics are a by-product of an administrative process." Explain fully.

- b.   What are the problems associated with the measurement of fertility?

- c.   Unlike fertility and mortality, migration is much more difficult to define. Explain.

QUESTION 4   **(4+4+4+4+4 marks)**

Distinguish fully between the following concepts and measures:

- a.   Lifetime migration and fixed period migration

- b.   Epidemic and pandemic;

- c.   Immigrant and in-migrant;

- d.   Population studies and demography; and

- e.   Sampling error and non-sampling error.

QUESTION 5   (7+3+5+5 marks)

Use the following data for Region Z to answer the questions below:

DATA FOR REGION Z

Population 15-49 in 2000	480,000
Number of women 15-49 in 2000	280,000
Population in 1990	2,000,000
Population in 2000	2,200,000
Births in 1990	100,000
Births in 2000	120,000
Deaths in 1990	40,000
Deaths in 2000	36,000
Births between 1990 and 2000	550,000
Deaths between 1990 and 2000	190,000
Girls under age 5 in 2000	200,000
Children under age 5 in 2000	400,000

    a.   What happened to the rate of natural increase for region Z between 1990 and 2000?

    b.   Calculate the general fertility rate for region Z in 2000.

    c.   What was the net migration of region Z between 1990 and 2000?

    d.   Calculate the annual rate of growth of the population between 1990 and 2000.