UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER 2010

TITLE OF PAPER   :   INTRODUCTION TO DEMOGRAPHY

COURSE CODE   :   DEM 101

TIME ALLOWED   :   TWO (2) HOURS

INSTRUCTIONS   :   ANSWER THREE QUESTIONS.
QUESTIONS 1 AND TWO ARE
COMPULSORY.

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QUESTION 1 (COMPULSORY)   (4+4+4+4+4 marks)

You are provided with the following data for a certain developed country in 1991.

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

Age	Female Population	Percent Distribution
10-14	15,000	0.44
15-19	18,000	2.93
20-24	20,000	29.48
25-29	21,000	27.58
30-34	19,000	18.99
35-39	27,000	14.55
40-44	24,000	4.47
45-49	22,000	1.56

In addition; you have the information below for the same year:

Total female population	-	340,000
Children under five years	-	97,200
Girls under five	-	50,544
Total live births	-	10,204
General sex ratio	–	98
Sex ratio at birth	-	104
Post neonatal deaths	-	109
Neonatal deaths	-	146
Early neonatal deaths	-	106
Still births	-	200

Using the above data, calculate the following measures and interpret them:
  i.   Crude birth rate
  ii.   General fertility rate
  iii. Total fertility rate
  iv.   Infant mortality rate
  v.   Child woman ratio.

QUESTION 2   (COMPULSORY) (8+12 marks)

a.   Complete the following table for a population growing at an annual
       rate of 0.9% and comment on why the figures differ.

Population growth 2008-2010

Year	Arithmetic growth	Geometric growth	Exponential growth
2006	1,000,000	1,000,000	1,000,000
2008			
2010			

b.   Estimated world population 1960-2000 (millions):

Year	Mid-year population
1960	3037
1970	3696
1980	4432
1990	5321
2000	6067

    i.   What was the average annual growth rate in each decade?
    ii.   Using the average growth rates from (i), estimate the years in
           which the population reached 4 billion and 5 billion?
    iii.   Assuming a continuation of the 1990-2000 average growth,
           when will the total reach 7 billion? (use geometric)

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

    (a)   List the problems associated with measuring fertility and
           migration.

    (b)   What is the difference between life expectancy at birth and
           lifespan? Explain in full.

    (c)   Why are the crude birth rate and crude death rate so called?
           Explain for each measure separately.

    (d)   Distinguish fully between a stationary population and a stable
           population.

3

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

a.   Why it is necessary to conduct demographic surveys in addition to population censuses?

b.   Population registers are kept by a few developed countries. Why this is the case?

c.   Vital registration is conducted to collect demographic data. Comment briefly.

d.   Fecundity and fecundability are two different but related concepts. Explain.

e.   What is the relationship, if any, between stock and flow data?