

**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 ANY OTHER TWO  
(2) QUESTIONS**

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

Based on data provided in Annex 1, compute and interpret the following measures:

- a. Crude Birth rate
- b. General fertility rate
- c. Total fertility rate
- d. Infant mortality rate
- e. Rate of natural increase

**QUESTION 2 (4+5+5+6marks)**

- a. Give four reasons why age is an important demographic variable.
- b. Based on Annex 1 compute four measures of age structure. What do these measures indicate about the population?
- c. What is meant by population aging? Explain why it occurs.

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

- a. Outline the key features of a population register.
- b. List the advantages and limitations of demographic surveys.
- c. Explain how the following concepts are related: sampling error, sample size, sampling frame, probability sampling, and target population.

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

Distinguish fully between the following concepts and measures:

- a. Stock and flow data;
- b. Coverage and content error;
- c. De-facto and de-jure population count;
- d. General sex ratio and masculinity proportion; and
- e. Fertility and fecundability.

**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 crude birth rate and crude death rate 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.

**ANNEX 1 Demographic data for Country X in 1980**

Age	Population	
	Males	Females
0-4	580,389	555,536
5-9	605,546	579,333
10-14	717,004	689,056
15-19	803,639	794,932
20-24	737,556	782,390
25-29	690,997	737,379
30-34	649,344	702,495
35-39	526,286	580,621
40-44	446,856	489,456
45-49	433,243	478,268
50-54	469,110	527,492
55-59	456,018	523,352
60-64	382,502	458,505
65-69	312,502	412,020
70-74	229,349	338,557
75-79	153,100	260,457
80-84	88,035	173,764
85+	57,946	135,037
Total	8,339,422	9,218,650

**Deaths to Country X residents by age and sex in 1980**

Age	Male	Female
<1	1,673	1,321
<5	1,954	1,537
5-9	196	123
10-14	223	145
15-19	936	354
20-24	1,401	453
25-29	1,424	486
30-34	1,441	615
35-39	1,366	736
40-44	1,749	1,047
45-49	2,648	1,606
50-54	4,398	2,767
55-59	6,504	4,083
60-64	8,523	5,655
65-69	10,652	7,545
70-74	11,808	9,594
75+	33,473	46,303
Total	88,710	83,059

Births to Country X females by sex of child in 1980 were:

Age	Male	Female
10-14	242	269
15-19	14,244	13,455
20-24	35,618	34,054
25-29	40,530	39,235
30-34	23,904	22,722
35-39	6,907	6,585
40-44	1,065	1,060
45-49	51	36