

UNIVERSITY OF SWAZILAND
FINAL EXAMINATION PAPER 2008

TITLE OF PAPER: POPULATION ESTIMATES AND PROJECTIONS

COURSE CODE : DEM 301

TIME ALLOWED : TWO (2) HOURS

INSTRUCTIONS : ANSWER ANY THREE (3) QUESTIONS

SPECIAL REQUIREMENT: CALCULATOR

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GRANTED BY THE INVIGILATOR**

Instruction: Please answer any THREE questions

Question 1

- a) Discuss each of the following Demographic terms: (6)
 Intercensal estimate
 Postcensal estimate
 Population projection
- b) Outline the uses of population estimates. (4)
- c) Given the population of Swaziland during the following years estimate the population in 2007; (15)

30 th June 1976	494,534
30 th June 1986	681,058
30 th June 1997	929,718

- Using
- i) The Linear equation
 - ii) The Geometric annual equation.

Question 2

- a) Briefly discuss the uses of projection variants. (10)
- b) With the given information show how annual number of births are estimated, using the Period Fertility Method, state your assumptions. (15)

Population Census 2000	Assumed ASFR	Projected female population 2005	Births in 2005
2648	0.1132	2637.4	
3478	0.1314	3456.4	
4022	0.1039	3988.2	
4091	0.0637	4037.8	
3823	0.0235	3744.6	
3474	0.0032	3360	

Question 3

- a) What is the most important factor in determining the method used for estimating a population of an area? (3)
- b) Discuss any four guidelines for population estimation and projections. (12)
- c) Discuss the **Constant Share Ratio** method of estimating sub national population giving an arbitrary example. (10)

Question 4

- a) When would you use a cohort component method of population projection? (5)
- c) Given the following information for country A in 2005.
- i) project the female school going population assuming 97% enrolment rates for ages 5-14. (10)
- ii) project the size of the female labour force assuming 75% activity rates in the 15-64 age group. (10)

Age group	Female Population 2000	Assumed 5 yr Survival Rates	Projected Female school going population, 2005	Projected labour force population, 2005
0-4	3837	0.9809		
5-9	3006	0.9904		
10-14	2632	0.9934		
15-19	2648	0.9976		
20-24	3478	0.996		
25-29	4022	0.9938		
30-34	4091	0.9916		
35-39	3823	0.987		
40-44	3474	0.9795		
45-49	2648	0.9673		
50-54	1706	0.9512		
55-59	1341	0.9322		
60-64	1155	0.9036		
65-69	1180	0.8653		
70-74	1139	0.8165		
75-79	951	0.7505		
80+	827	0.6634		
Total				

Question 5

Using the projected female population of Swaziland (2002) and the assumed Net International Migration Rates (NIMR):

- a) Estimate the female population with the effects of international migration (20)

Age group	Projected Population 2002	Net International Migration Rates	Estimated Female population, 2002
0-4	81377	-0.0043	
5-9	66965	-0.0045	
10-14	70188	-0.0051	
15-19	69042	-0.0018	
20-24	56911	-0.0078	
25-29	45269	-0.0445	
30-34	36822	-0.0369	
35-39	29183	-0.0306	
40-44	25233	-0.0243	
45-49	18519	-0.0144	
50-54	15103	0.0120	
55-59	11721	0.0110	
60-64	8357	0.0090	
65-69	6548	0.0020	
70-74	4383	0.0010	
75-79	3064	0.0016	
80+	3785	0.0016	
Total			

- b) How do you understand a negative NIMR? (5)