UNIVERSITY OF SWAZILAND

SUPPLEMENTARY EXAMINATION PAPER 2008

TITLE OF PAPER: POPULATION ESTIMATES AND PROJECTIONS

COURSE CODE   :   DEM 301

TIME ALLOWED :   TWO (2) HOURS

INSTRUCTIONS :   ANSWER QUESTION 1 AND ANY OTHER TWO (2) QUESTIONS

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QUESTION 1   (COMPULSORY) (7+8+8 marks)

a.   Why and when would you use a cohort component method of population projection?

b.   You are provided the following information for Country X. Based on this information,
  (i)   project the female school going population assuming 97% enrolment rates for ages 5-14; and
  (ii)   project the size of the female labour force assuming 75% activity rates in the 15-64 age group.

Age Group	Female Population 2000	Assumed 5yr Survival rates
0-4	3837	0.9809
5-9	3006	0.9904
10-14	2632	0.9934
15-19	2648	0.9976
20-24	3478	0.9960
25-29	4022	0.9938
30-34	4091	0.9916
35-39	3823	0.9870
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

QUESTION 2   (6+4+15marks)

a.   Explain the differences between the following terms: inter-censal estimate, post-censal estimate, and population projection.

b.   What are the uses of population estimates?

c.   Given the population of Gambia during the following years, estimate the population in 2007 using the linear equation and geometric annual equation.

         30th June 1975   494 534

         30th June 1985   681 058

         30th June 1996   929 718

QUESTION 3   (10 +15 marks)

a.   What are projection variants and what are their uses?

b.   With the provided information, show how the annual number of births is estimated using Period Fertility method. Make sure to state your assumptions.

Population Census 2000	Assumed ASFRs	Projected female population 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	3360.0

QUESTION 4   (3+12+10 marks)

a.   In determining the method for estimating a population of an area, what is the most important factor?

b.   Outline at least four guidelines for population estimation and projections.

c.   Describe the constant share method of estimating sub-national populations. Give an arbitrary example. What are its limitations?