

UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER YEAR 2012

COURSE TITLE: **COLLECTION AND ASSESSMENT OF
DEMOGRAPHIC DATA**

COURSE NUMBER: **DEM 203**

TIME ALLOWED: 2 (TWO) HOURS

INSTRUCTIONS: **ANSWER QUESTIONS 1 OR 2 IN
SECTION A (NOT BOTH) AND ANY
OTHER 2 (TWO) QUESTIONS IN
SECTION B**

SPECIAL REQUIREMENTS: CALCULATOR

**THIS QUESTION PAPER SHOULD NOT BE OPENED UNTIL
PERMISSION HAS BEEN GRANTED BY THE INVIGILATOR.**

SECTION A

Question 1

Calculate the Myers Index for the Total Population (Both Sexes) in the data sheet attached [20 points]

Question 2

Adjust the Total Population (Both Sexes) in the data sheet attached using Osculatory Interpolation. Use the Sprague Multipliers [20 points]

SECTION B

Question 3

- a) What are age ratios? [5 points]
- b) Using the UN, Zelnik or Ramachandran age ratio calculation methods, show how age ratios can be used in the measurement of error in data. [15 points]

Question 4

- a) What are vertical and horizontal inconsistency checks in the detection of errors in data [8 points]
- b) Discuss the Whipples Index and the Digit Preference Index showing how they differ and why [12 points]

Question 5

- a) When translating a questionnaire written in English errors often are introduced. Using a typical question as an example show how this may happen when translating from English to Siswati. [6 points]
- b) Coverage errors may lead to content errors in the data collection process. Explain how [6 points]
- c) Show how the Balancing Equation may be used to detect errors in data. State the conditions under which this method may be used. [8 points]

Table5A.2: National Population by Single Years of Age, Sex and Place of Residence : 2008

Age	URBAN			RURAL			SWAZILAND		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
0	4,457	2,262	2,195	25,367	12,861	12,506	29,824	15,123	14,701
1	4,833	2,485	2,348	19,113	9,536	9,577	23,946	12,021	11,925
2	4,273	2,172	2,101	21,734	11,023	10,711	26,007	13,195	12,812
3	4,114	2,062	2,052	22,620	11,487	11,133	26,734	13,549	13,185
4	4,142	2,051	2,091	22,750	11,519	11,231	26,892	13,570	13,322
5	4,264	2,088	2,176	22,499	11,336	11,163	26,763	13,424	13,339
6	4,409	2,137	2,272	22,134	11,091	11,043	26,543	13,228	13,315
7	4,529	2,174	2,355	21,824	10,881	10,943	26,353	13,055	13,298
8	4,606	2,187	2,419	21,658	10,759	10,899	26,264	12,946	13,318
9	4,641	2,180	2,461	21,628	10,716	10,912	26,269	12,896	13,373
10	4,613	2,136	2,477	21,688	10,729	10,959	26,301	12,865	13,436
11	4,621	2,110	2,511	21,663	10,688	10,975	26,284	12,798	13,486
12	4,665	2,109	2,556	21,544	10,601	10,943	26,209	12,710	13,499
13	4,703	2,111	2,592	21,324	10,463	10,861	26,027	12,574	13,453
14	4,730	2,116	2,614	20,986	10,270	10,716	25,716	12,386	13,330
15	4,811	2,149	2,662	20,442	9,988	10,454	25,253	12,137	13,116
16	4,884	2,182	2,702	19,859	9,690	10,169	24,743	11,872	12,871
17	4,896	2,188	2,708	19,362	9,421	9,941	24,258	11,609	12,649
18	4,936	2,207	2,729	18,805	9,120	9,685	23,741	11,327	12,414
19	5,020	2,247	2,773	18,185	8,780	9,405	23,205	11,027	12,178
20	5,230	2,349	2,881	17,358	8,326	9,032	22,588	10,675	11,913
21	5,447	2,457	2,990	16,490	7,848	8,642	21,937	10,305	11,632
22	5,542	2,505	3,037	15,779	7,465	8,314	21,321	9,970	11,351
23	5,582	2,529	3,053	15,125	7,115	8,010	20,707	9,644	11,063
24	5,559	2,525	3,034	14,547	6,814	7,733	20,106	9,339	10,767
25	5,464	2,506	2,958	13,990	6,492	7,498	19,454	8,998	10,456
26	5,349	2,477	2,872	13,469	6,193	7,276	18,818	8,670	10,148
27	5,251	2,442	2,809	12,958	5,936	7,022	18,209	8,378	9,831
28	5,144	2,407	2,737	12,387	5,650	6,737	17,531	8,057	9,474
29	5,042	2,382	2,660	11,722	5,317	6,405	16,764	7,699	9,065

Table 5A.2 (Cont.): National Population by Single Years of Age, Sex and Place of Residence : 2008

Age	URBAN			RURAL			SWAZILAND		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
30	4,839	2,307	2,532	11,062	4,973	6,089	15,901	7,280	8,621
31	4,625	2,230	2,395	10,393	4,628	5,765	15,018	6,858	8,160
32	4,493	2,193	2,300	9,713	4,293	5,420	14,206	6,486	7,720
33	4,356	2,148	2,208	9,127	4,006	5,121	13,483	6,154	7,329
34	4,220	2,097	2,123	8,667	3,782	4,885	12,887	5,879	7,008
35	4,037	2,006	2,031	8,336	3,629	4,707	12,373	5,635	6,738
36	3,852	1,911	1,941	8,050	3,500	4,550	11,902	5,411	6,491
37	3,706	1,846	1,860	7,733	3,350	4,383	11,439	5,196	6,243
38	3,535	1,769	1,766	7,422	3,208	4,214	10,957	4,977	5,980
39	3,337	1,682	1,655	7,101	3,062	4,039	10,438	4,744	5,694
40	3,117	1,583	1,534	6,781	2,920	3,861	9,898	4,503	5,395
41	2,887	1,477	1,410	6,477	2,790	3,687	9,364	4,267	5,097
42	2,669	1,379	1,290	6,204	2,668	3,536	8,873	4,047	4,826
43	2,482	1,292	1,190	5,949	2,558	3,391	8,431	3,850	4,581
44	2,330	1,221	1,109	5,720	2,454	3,266	8,050	3,675	4,375
45	2,210	1,161	1,049	5,519	2,374	3,145	7,729	3,535	4,194
46	2,098	1,106	992	5,333	2,297	3,036	7,431	3,403	4,028
47	1,987	1,049	938	5,149	2,216	2,933	7,136	3,265	3,871
48	1,874	991	883	4,975	2,138	2,837	6,849	3,129	3,720
49	1,752	926	826	4,811	2,068	2,743	6,563	2,994	3,569
50	1,623	855	768	4,646	2,003	2,643	6,269	2,858	3,411
51	1,502	788	714	4,490	1,940	2,550	5,992	2,728	3,264
52	1,388	724	664	4,354	1,885	2,469	5,742	2,609	3,133
53	1,286	668	618	4,220	1,827	2,393	5,506	2,495	3,011
54	1,197	621	576	4,082	1,766	2,316	5,279	2,387	2,892
55	1,120	580	540	3,934	1,706	2,228	5,054	2,286	2,768
56	1,052	544	508	3,786	1,645	2,141	4,838	2,189	2,649
57	982	508	474	3,655	1,584	2,071	4,637	2,092	2,545

Table 5A.2 (Cont.): National Population by Single Years of Age, Sex and Place of Residence 2008

Age	URBAN			RURAL			SWAZILAND		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
58	915	471	444	3,536	1,529	2,007	4,451	2,000	2,451
59	845	433	412	3,425	1,475	1,950	4,270	1,908	2,362
60	769	391	378	3,313	1,426	1,887	4,082	1,817	2,265
61	695	349	346	3,206	1,378	1,828	3,901	1,727	2,174
62	634	316	318	3,108	1,330	1,778	3,742	1,646	2,096
63	579	286	293	3,002	1,279	1,723	3,581	1,565	2,016
64	527	257	270	2,884	1,225	1,659	3,411	1,482	1,929
65	487	237	250	2,741	1,166	1,575	3,228	1,403	1,825
66	447	216	231	2,599	1,110	1,489	3,046	1,326	1,720
67	407	194	213	2,471	1,051	1,420	2,878	1,245	1,633
68	370	175	195	2,342	990	1,352	2,712	1,165	1,547
69	331	155	176	2,215	930	1,285	2,546	1,085	1,461
70	298	138	160	2,060	858	1,202	2,358	996	1,362
71	267	122	145	1,902	786	1,116	2,169	908	1,261
72	233	105	128	1,778	727	1,051	2,011	832	1,179
73	203	89	114	1,650	667	983	1,853	756	1,097
74	176	75	101	1,520	607	913	1,696	682	1,014
75	149	61	88	1,377	548	829	1,526	609	917
76	123	48	75	1,232	487	745	1,355	535	820
77	101	37	64	1,104	424	680	1,205	461	744
78	79	25	54	975	365	610	1,054	390	664
79	55	14	41	852	304	548	907	318	589
80+	513	149	364	6,240	2,148	4,092	6,753	2,297	4,456
ALL AGES	229,516	109,937	119,579	802,231	378,195	424,036	1,031,747	488,132	543,615