

UNIVERSITY OF SWAZILAND

DEPARTMENT OF STATISTICS AND DEMOGRAPHY

FINAL EXAMINATION PAPER YEAR 2014

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

COURSE NUMBER: **DEM 203**

TIME ALLOWED: **2 (TWO) HOURS**

INSTRUCTIONS: **ANSWER QUESTION 1 AND ANY 2
(TWO)**

QUESTIONS

**SPECIAL
REQUIREMENTS:** **CALCULATOR**

Question 1

- a) Using the attached data calculate the Myers Index and comment about the quality of the data set

[14 points]

- b) In what ways is the Myers index an improvement over the Digit Preference Index (DPI)? (What shortcomings does it overcome)

[6 points]

Question 2

- a) Using the UN Five Point Smoothing Formula smooth the Total population (Swazi) in the attached data sheet

[18 points]

- b) State the UN Three Point Smoothing Formula

[2 points]

Question 3

What are vertical, horizontal and diagonal consistency check methods in data error detection? Use appropriate examples to elaborate

[20 points]

Question 4

Discuss fully what is the UN Joint Score Index and how does it detect errors in data

[20 points]

Question 5

- a) Newton's Halving Formula (Quadratic interpolation) may be used to smooth data. Use the method to smooth the data (Both Sexes) in the attached data sheet.

[14 points]

- b) Briefly explain what is Osculatory Interpolation

[6 points]

POPULATION BY CITIZENSHIP, SEX AND SINGLE YEARS OF AGE: 1997

AGE GROUP	SWAZI			AGE GROUP	SWAZI			AGE GROUP	SWAZI		
	MALES	FEMALES	BOTH SEXES		MALES	FEMALES	BOTH SEXES		MALES	FEMALES	BOTH SEXES
0	11 912	12 217	24 129	35	4 499	6 210	10 709	70	957	1 398	2 355
1	12 731	13 028	25 759	36	3 764	5 238	9 002	71	421	656	1 077
2	13 616	13 611	27 227	37	3 519	4 365	7 884	72	759	1 151	1 910
3	14 060	14 163	28 223	38	3 505	5 323	8 828	73	368	568	936
4	14 523	15 107	29 630	39	3 259	4 319	7 578	74	350	540	890
0-4	66 842	68 126	134 968	35-39	18 546	25 455	44 001	70-74	2 855	4 313	7 168
5	14 153	14 103	28 256	40	4 503	5 585	10 088	75	554	738	1 292
6	13 967	14 423	28 390	41	2 509	3 021	5 530	76	412	559	971
7	14 038	13 798	27 836	42	3 438	4 226	7 664	77	370	498	868
8	13 195	13 638	26 833	43	2 557	3 136	5 693	78	366	610	976
9	12 960	13 663	26 623	44	2 294	2 850	5 144	79	417	646	1 063
5-9	68 313	69 625	137 938	40-44	15 301	18 818	34 119	75-79	2 119	3 051	5 170
10	14 382	14 518	28 900	45	4 180	4 412	8 592	80	363	635	998
11	13 181	13 548	26 729	46	2 267	2 478	4 745	81	149	326	475
12	14 159	14 203	28 362	47	2 524	2 628	5 152	82	231	394	625
13	13 348	13 640	26 988	48	2 436	3 012	5 448	83	249	309	558
14	12 481	12 756	25 237	49	2 351	2 973	5 324	84	139	225	364
10-14	67 551	68 665	136 216	45-49	13 758	15 503	29 261	80-84	1 131	1 889	3 020
15	12 366	12 507	24 873	50	3 201	3 631	6 832	85	173	281	454
16	11 374	12 004	23 378	51	1 746	2 116	3 862	86	122	187	309
17	10 314	11 276	21 590	52	2 457	2 923	5 380	87	156	226	382
18	10 662	11 220	21 882	53	1 450	1 687	3 137	88	83	127	210
19	8 684	9 660	18 344	54	1 437	1 883	3 320	89	157	214	371
15-19	53 400	56 667	110 067	50-54	10 291	12 240	22 531	85-89	691	1 035	1 726
20	9 037	10 328	19 365	55	2 061	2 213	4 274	90	109	209	318
21	7 675	9 216	16 891	56	1 861	1 870	3 731	91	29	70	99
22	7 305	9 061	16 366	57	1 753	1 761	3 514	92	55	90	145
23	6 783	8 470	15 253	58	1 523	1 650	3 173	93	41	52	93
24	6 401	8 208	14 609	59	1 203	1 475	2 678	94	29	43	72
20-24	37 201	45 283	82 484	55-59	8 401	8 969	17 370	90-94	263	464	727
25	6 440	8 271	14 711	60	2 113	2 432	4 545	95	62	80	142
26	5 285	6 971	12 256	61	1 091	1 258	2 349	96	53	67	120
27	5 479	6 736	12 215	62	1 122	1 464	2 586	97	57	75	132
28	5 284	7 184	12 468	63	879	1 164	2 043	98	190	356	546
29	6 278	7 811	14 089	64	876	1 065	1 941	95+	362	578	940
25-29	28 766	36 973	65 739	60-64	6 081	7 383	13 464	ANS	1 245	1 524	2 769
30	5 392	7 747	13 139	65	1 385	1 547	2 932	TOTAL	428 409	481 323	909 732
31	3 668	4 821	8 489	66	673	760	1 433				
32	4 808	6 967	11 775	67	935	1 079	2 014				
33	3 269	4 626	7 895	68	780	1 060	1 840				
34	3 656	5 180	8 836	69	726	975	1 701				
30-34	20 793	29 341	50 134	65-69	4 499	5 421	9 920				