



**NAMIPIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

FACULTY OF NATURAL RESOURCES AND SPATIAL SCIENCES

DEPARTMENT OF ARCHITECTURE AND SPATIAL PLANNING

QUALIFICATION CODE: BACHELOR OF TOWN AND REGIONAL PLANNING	
COURSE CODE: DPS610S	COURSE NAME: DEMOGRAPHY AND POPULATION STUDIES
SESSION: JULY 2019	PAPER: THEORY
DURATION 3 HOURS	MARKS: 100

SECOND / SUPPLEMENTARY OPPORTUNITY EXAMINATION QUESTION PAPER	
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INSTRUCTIONS
<ol style="list-style-type: none">1. Answer ALL the questions.2. Write clearly and neatly.3. Number the answers clearly.

PERMISSIBLE MATERIALS

1. Calculator
2. Pen
3. Pencil
4. Eraser
5. Ruler

THIS QUESTION PAPER CONSISTS OF 5 PAGES (Including this front page)

Question 1

- (a) A way of looking at changes in population composition is through population pyramids. Differentiate between constrictive and expansive population pyramids. (8)
- (b) You are provided with Table 1 below. Demonstrate, in seven statements, what is represented by Table 1 below. (7)

Table 1

<i>Age(x)</i>	<i>Width(n)</i>	<i>nM_x</i>	<i>nax</i>	<i>nqx</i>	<i>l_x</i>	<i>ndx</i>	<i>nL_x</i>	<i>T_x</i>	<i>e_x</i>
0	1	0.04547	0.18	0.04384	100 000	4 384	96 412	5 694 838	56.9
1	4	0.00658	1.66	0.02592	95 616	2 479	376 668	5 598 427	58.6
5	5	0.00201	2.50	0.00999	93 137	930	463 362	5 221 759	56.1
10	5	0.00169	2.50	0.00841	92 207	775	459 099	4 758 397	51.6
15	5	0.00266	2.50	0.01321	91 432	1 208	454 140	4 299 298	47.0
20	5	0.00478	2.50	0.02363	90 224	2 132	445 790	3 845 158	42.6
25	5	0.00778	2.50	0.03817	88 092	3 363	432 054	3 399 368	38.6
30	5	0.01192	2.50	0.05789	84 730	4 905	411 384	2 967 313	35.0
35	5	0.01324	2.50	0.06407	79 824	5 114	386 335	2 555 929	32.0
40	5	0.01499	2.50	0.07224	74 710	5 397	360 058	2 169 594	29.0
45	5	0.01580	2.50	0.07598	69 313	5 266	333 401	1 809 535	26.1
50	5	0.01666	2.50	0.07998	64 047	5 123	307 428	1 476 135	23.0
55	5	0.02059	2.50	0.09793	58 924	5 770	280 196	1 168 706	19.8
60	5	0.02670	2.50	0.12517	53 154	6 653	249 137	888 510	16.7
65	5	0.03243	2.50	0.14998	46 501	6 974	215 069	639 373	13.7
70	5	0.05198	2.50	0.22999	39 527	9 091	174 906	424 304	10.7
75	5	0.08270	2.50	0.34267	30 436	10 429	126 106	249 398	8.2
80+		0.16227	6.16	1.00000	20 006	20 006	123 292	123 292	6.2

Source: Namibia Statistics Agency, 2014

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Question 2

- (a) Population analyses are important in both public and private sectors. Explain briefly, in four statements, why it is important to consider population analyses in the private sector. (4)
- (b) Population data can be analysed using various methods such as accessibility indexes. Distinguish between the two accessibility indexes that are widely used, by providing three facts about each index. (6)

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Question 3

Your regional council is provided with funding for a proposed health centre, offering services for adolescent mothers. One of the funding conditions stipulates that the funds be allocated to a town within your region with the Age Specific Fertility Rate (among adolescent mothers) of 50 and above.

Your regional governor has instructed you to carry out an assessment of the best location for the proposed health centre within your region. Using the data in Table 2 below and the aforesaid funding condition, answer the questions proceeding Table 2.

Table 2: Number of Women and Live Births to Women, in 15-24 Age Groups in Towns A-C

Town	Age Group	Women in Age Group	Live Births to Women in Age Group
Town A	15-19	9,906,365	952,013
	20-24	10,427,161	483,401
Town B	15-19	11,475,863	104,644
	20-24	11,372,141	6,546
Town C	15-19	10,240,239	414,406
	20-24	10,150,079	1,040,399

- (a) Based on the data in Table 2, and the Age Specific Fertility Rate perspective demonstrate the calculations that are required to be undertaken before making a decision on the suitable town for the proposed health centre. Please show the formulas and all calculations and round off your answers to the nearest whole number. (11)
- (b) In accordance with your calculations in Question 3(a) above, decide which town should be provided with the funds for the proposed health centre. (1)

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Question 4

- (a) Migration efficiency is the area's net migration or gross migration. City X has a positive efficient migration while City Y has a negative efficient migration. Based on the aforementioned migration efficiencies of Cities X and Y, compare Cities X to Y by providing three statements about each city. (6)
- (b) Migration measures compare one's state of birth with one's place of residence at the time of enumeration. Identify five migration measures. (5)

- (c) Urban population growth has various consequences on the environment. According to Fragkias, et al. (2013), the urban population in Africa is projected to increase by 160% before 2030. Discuss briefly, in seven statements, the adverse impacts of this increase of urban population, on the environment, associated only with Figure 1 below. (7)



Figure 1
Fragkias, et al., 2013

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Question 5

- (a) A certain population theorist stipulated that there are two possible checks that could limit population growth. Compile a table distinguishing these two checks. (10)
- (b) An established population theory was criticised for not explaining the phenomenon of "the baby boom" in western countries after the Second World War. Based on the critiques, the theory was reformulated, and subsequently reinterpreted as a set of interrelated transitions. Determine the five interrelated transitions of the reformulated theory. (5)
- (c) There are various population theories. Discuss, in five sentences, the prepositions of the theory criticised for applying a law of diminishing returns to a period of time. (5)

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Question 6

- (a) Population projections can be classified into objective and subjective projections. Distinguish between objective and subjective projections, by offering three facts about each projection. (6)

- (b) Trend extrapolation methods are powerful straightforward tools for projecting populations. Identify the population projection extrapolation methods and associated formulas, represented by Lines A and B in Figure 2 below. (4)

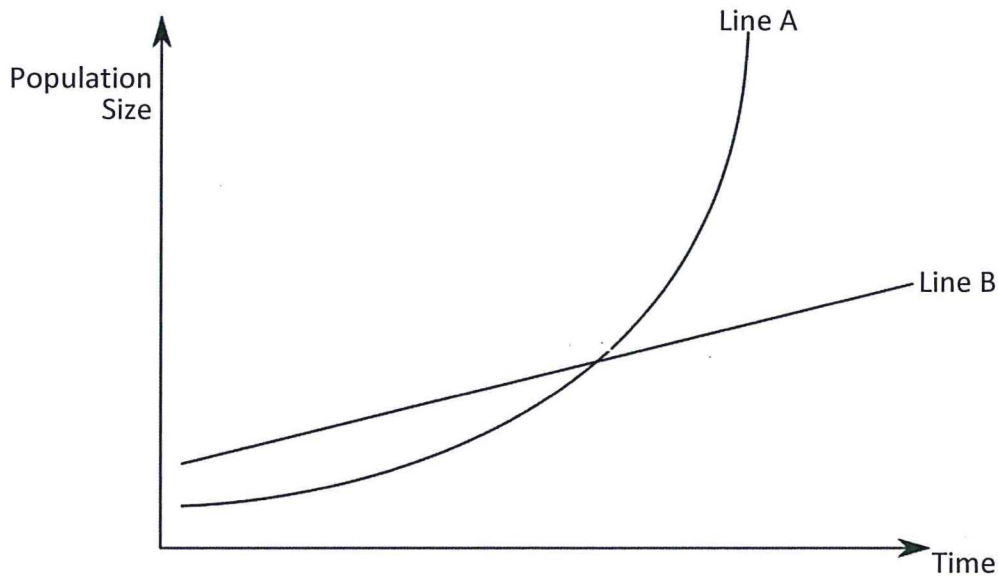


Figure 2

- (c) A town planner wishes to project the population of a town for the next decade, and is not sure of what projection method to use. Outline seven factors that can affect the town planner's choice of population projection methods. (7)
- (d) The central government is offering grants for one public bus for each growing settlement, with an estimated population of 10,000 or more by 2030. You have been instructed by your mayor to estimate the number of people who will be in your settlement in 2030, in order to enable your settlement to apply for that grant. Based on your estimation, the population of your settlement will decrease from 2,500 to 1,500 in 2030.

The mayor was not happy with your projections, and subsequently informed you that you should change the population projections to reflect that your settlement will have over 10,000 people by 2030; in order to secure the central government grant for the public bus. The mayor further threatened that he will bring you down through your Chief Executive Officer if you did not change the population projections.

- (i) From an ethical approach, indicate if you will decide to change or not change the population projection figures. (1)
- (ii) Motivate the decision you provided in Question 6(d)(i), in seven brief statements. (7)