



QUALIFICATION : BACHELOR of SCIENCE IN APPLIED MATHEMATICS AND STATISTICS	
QUALIFICATION CODE: 07BSAM	LEVEL: 6
COURSE: DEMOGRAPHY	COURSE CODE: DEM602S
DATE: JANUARY 2024	SESSION: 1
DURATION: 3 HOURS	MARKS: 80

SECOND OPPORTUNITY: EXAMINATION QUESTION PAPER

EXAMINER: **MR. ANDREW ROUX**

MODERATOR: **MR. JAN SWARTZ**

INSTRUCTIONS

1. Answer all questions on the separate answer sheet.
2. Please write neatly and legibly.
3. Do not use the left side margin of the exam paper. This must be allowed for the examiner.
4. No books, notes and other additional aids are allowed.
5. Mark all answers clearly with their respective question numbers.

PERMISSIBLE MATERIAL

1. Non-Programmable Calculator

This paper consists of 5 pages including this front page

QUESTION 1 : Age Structures [27]

- 1.1) State the balancing formula which is used to express population growth.
(identify all variables in the formula) (5)
- 1.2) The table below presents figures obtained from 2011 Population and Housing Census of Namibia (Source : NSA, 2011 Population and Housing Census National Report)

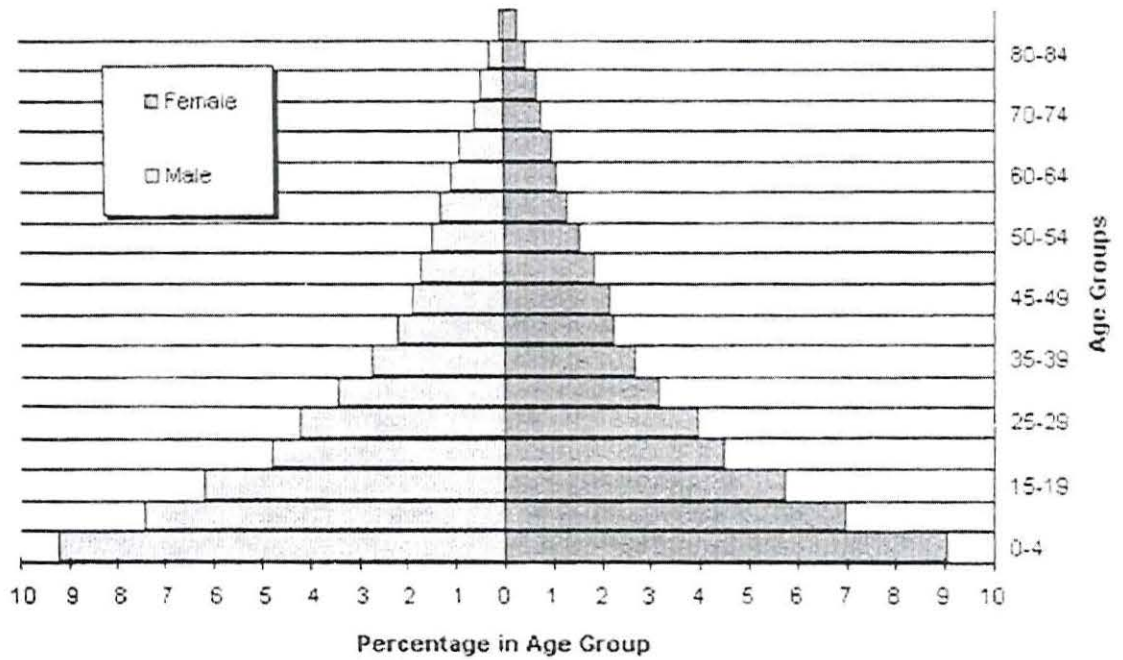
AGE	MEN AND WOMEN
0-4	5288700
5-9	4502500
10-14	4106700
15-19	3643900
20-24	3205200
25-29	2771100
30-34	2286900
35-39	1912500
40-44	1590600
45-49	1334000
50-54	1083800
55-59	890500
60-64	711200
65-69	538300
70-74	383700
75-79	234800
80+	159400
Total	34643800

Use the data provided to calculate the following demographic measures:

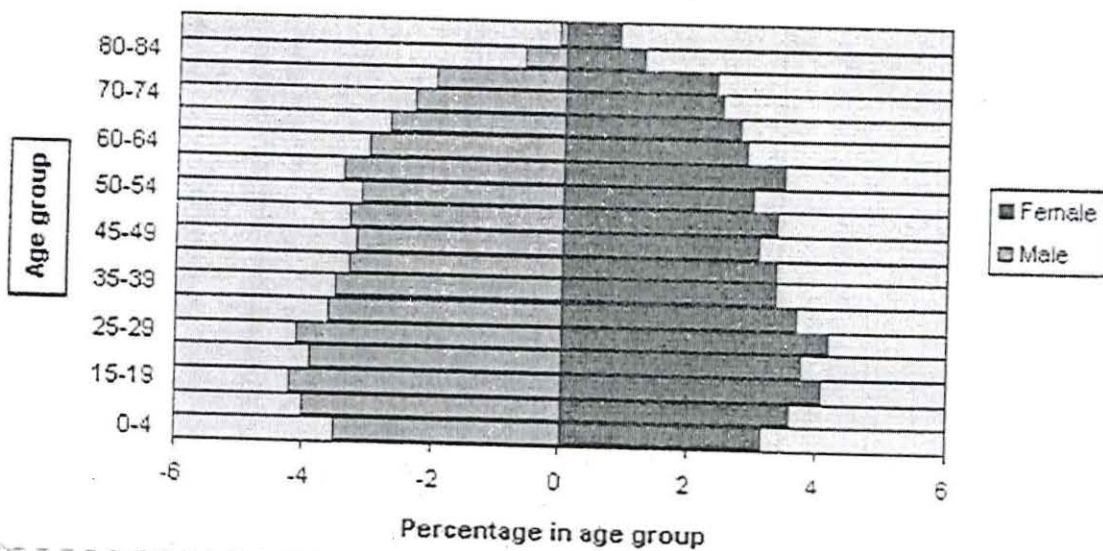
- 1.2.1) Child Dependency Ratio (3)
- 1.2.2) Age Dependency Ratio (3)
- 1.2.3) Total dependency Ratio (3)
- 1.2.4) The Median age (5)

- 1.3) Carefully describe, and give an example of a country of each of the two population pyramids A and B in terms of age-sex distributions. (2 x 4 = 8)

Pyramid A



Pyramid B



QUESTION 2 : FERTILITY [32]

The table below presents figures obtained from 2001 Population and Housing Census of Namibia (Source : CBS, 2001 Population and Housing Census National Report)

Age Group of Mother	Number of Women	Number of Births	Number of female births
15-19	42 346	675	345
20-24	46 376	5 125	2710
25-29	36 453	4 345	2189
30-34	31 657	1 875	981
35-39	22 435	966	467
40-44	12 764	167	91
45 - 49	2 345	109	57

Use the data provided to calculate and interpret :

- 2.1) General fertility rate (4)
- 2.2) All age specific fertility rates (4)
- 2.3) Total fertility rate (4)
- 2.4) Gross fertility rate (4)
- 2.5) The mean age of child-bearing (5)
- 2.6) The standard deviation in the age of child-bearing (8)
- 2.7) The coefficient of variation in the age of child-bearing (3)

QUESTION 3 – Mortality & Nuptiality [21]

3.1) Briefly define a life table, and discuss the importance of a life table (2+2 = 4)

3.2) Name and briefly describe the two most commonly used life tables. (2+2 = 4)

3.3 The data provided shows number of marriages in 2015 in Namibia

Age	Midyear Female pop	Midyear total pop	# of marriages
0-4years	102462	188680	0
5-9years	94906	145762	0
10-14years	74876	146750	3
15-19years	109022	211078	876
20-24years	101234	205768	43378
25-29years	118056	225506	64020
30-34years	114568	212460	67568
35-39years	103208	198576	89578
40-44years	86906	149980	67508
45-49years	68090	112022	45620
50-54years	56564	98876	12568
55-59years	38906	65476	658
60-64years	31508	63544	232
65-69years	25906	59320	145
70-74years	16098	32212	22
75-79years	14458	22346	18
80+	12896	20226	6
Total			

Use the data provided to calculate and interpret:

3.3.1) Crude marriage rate, CMR (3)

3.3.2) General marriage rate, GMR (4)

3.3.3) Total marriage rate, TMR (6)

XXXXXXXXXXXXXXXXXXXXXXXXX END OF EXAMINATION XXXXXXXXXXXXXXXXXXXXXXX