



**NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

**Faculty of Health, Natural
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**School of Natural and Applied
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QUALIFICATION : BACHELOR OF SCIENCE IN APPLIED MATHEMATICS AND STATISTICS	
QUALIFICATION CODE: 07BSAM	LEVEL: 6
COURSE: DEMOGRAPHY	COURSE CODE: DEM602S
DATE: JANUARY 2025	SESSION: 1
DURATION: 3 HOURS	MARKS: 100

SECOND OPPORTUNITY/SUPPLEMENTARY: QUESTION PAPER

EXAMINER: Mr. Simon Pombili Kashihalwa

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 MATERIALS:

1. Non-Programmable Calculator

ATTACHEMENTS

1. None

This paper consists of 3 pages including this front page.

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DEPARTMENT OF MATHEMATICS, STATISTICS AND ACTUARIAL SCIENCE
DEMOGRAPHY: DEM602S

Second Opportunity Examination

DATE: JANUARY 2025

Examiner: Mr Pombili Kashihalwa

Moderator: Mr Jan Swartz

DURATION: 3 HOURS

Note: *This Paper consists of TWO pages with SEVEN Questions*

1. Describe briefly the following concepts as they are applied in Demography:
 - (i) Masculinity ratio [2]
 - (ii) Life table [2]
 - (iii) Nuptiality [2]
 - (v) Cornucopian theory [2]
2. One of the best-known topologies of migration is that of Petersen(1958,1975), briefly describe the five types of migration according to this typology. [10]
3. Briefly explain the consequences of international migration [8]
4. List the four most significant or "proximate" determinants of fertility as studied in demography. [4]
5. Name four marital events that may lead to a transition from one marital status to another. [4]
6. Briefly explain the demographic elements in Demography and explain the demographic forces that affects demographic element [9]

7. Study the table below and answer the questions that follows.

Age category	Population	Births	Immigrants	Emigrants	Divorces	Woman	Deaths
0-14	100 000	1655	1650	1400	5	160	1650
15-25	98345	818	880	600	13000	165	816
25-30	96963	686	700	300	11000	47000	687
30-35	94948	1254	1300	1000	9000	90 000	1250
35-40	92252	2183	2200	1200	12000	65000	2180
45-49	87080	4702	4600	33000	12500	25000	4700
50-64	54584	12997	12800	9000	11900	46000	12900
65-80	41587	13703	11000	8000	7500	28000	1300

Population of 0-4 is 11 000.

- (i) Calculate the Crude Divorce rate [3]
- (ii) Estimate the general divorce rate [4]
- (iii) Estimate the age specific divorce rate for each functional categories [9]
- (iv) Estimate the age standardized mortality rate for each functional categories [9]
- (v) Estimate the sex/age standardized divorce rate [9]
- (vi) Calculate the age dependency ratio [4]
- (vii) Estimate the Masculinity ratio for every age category [8]
- (viii) Estimate the age specific net migration [8]
- (ix) Work out the crude gross migration [3]

Total: 100 marks