

Mid-West University
Examinations Management Office

End Semester Examination 2081

Bachelor level/ B. Sc./ 7th Semester

Time: 3 hours

Subject: Measures of Demography (STAT471)

Full Marks: 100

Pass Marks: 50

Candidates are required to give their answer in their own words as far as practicable. The figures in the margin indicate full marks.

Group - A

Attempt all the questions.

[7x2 = 14]

1. a) Define the term **Vital Statistics**.
- b) Define Age-Ratio.
- c) What do you mean by crude death rate?
- d) Define child – woman Ratio.
- e) Define Net Reproduction Rate.
- f) What do you mean by Immigration?
- g) Define General Fertility Rate.

Group - B

Attempt all the questions.

[10x3 = 30]

2. i) Explain vital Registration system.
- ii) What do you mean by sex Ratio?
- iii) Write short note about Whipple's Index.
- iv) Write down the merits of crude death rate.
- v) In the usual notation, prove that $n^q x = \frac{2n.n^m x}{2+n.n^m x}$
- vi) Discuss about Net Reproduction Rate.
- vii) Proved that $qx = \frac{2m_x}{2+m_x}$
- viii) What do you mean by simple exponential model?
- ix) What are the two principle method of age adjustment death rate?
- x) Define smoothing of age distribution and write one any method of smoothing of age distribution.

Group - C

Attempt any *EIGHT* questions.

[8x7 = 56]

3. Explain the adjustment of age distribution using method of simple parabola.
4. What are the difference between Age-specific death rates and standard death rates?
5. Explain the complete life table and meaning of the table function.

6. Calculate the crude death rate and standard death rates of the two populations A and B from the following data:

| Age-group(year) | A | | B | |
|-----------------|------------|--------|------------|--------|
| | Population | Deaths | Population | Deaths |
| Below-5 | 15000 | 360 | 40000 | 1000 |
| 5-30 | 20000 | 400 | 52000 | 1040 |
| Above-30 | 10000 | 280 | 8000 | 240 |
| Total | 45000 | 1040 | 100000 | 2280 |

7. Write the real cohort measure of fertility by children ever born.
8. Explain the measure of Nuptiality.
9. Explain about migration and what are the measure of migration?
10. Explain about Age-Sex composition and Age-Dependence Ratio(ADR).
11. Explain the structure of a complete life table. How does an abridged life table differ from a complete life table?

The End