

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**EXAMINATION FOR THE AWARD OF DEGREE
OF BACHELOR OF SCIENCE (NURSING)**

NURU 276: EPIDEMIOLOGY AND DEMOGRAPHY

STREAMS: BscN UPGRADING (Y2S3)

TIME: 2 HOURS

DAY/DATE: THURSDAY 25/03/2021

2.30 P.M. – 4.30 P.M.

INSTRUCTIONS:

- **Do not write anything on the question paper.**
- **Mobile phones and any other reference materials are NOT allowed in the examination room.**
- **The paper has THREE sections. Answer ALL questions**
- **Number ALL your answers and indicate the order of appearance in the space provided in the cover page of the examination answer booklet.**

Multiple Choice Questions (10 marks)

1. Infectivity refers to:
 - (a) The proportion of infected persons who develop clinical diseases
 - (b) The proportion of exposed persons who become infected
 - (c) The proportion of persons with clinical disease who become severely sick or die
 - (d) The period, between exposure to an infectious agent and the appearance of the signs and symptoms
2. The zero population growth due to equal birth and death rates is called:
 - (a) Natural increase
 - (b) Demographic transition
 - (c) Fertility rate
 - (d) Replacement level

3. The mode of transport of an infectious agent through the environment to a susceptible host is called a:
 - a) carrier b) reservoir c) vector d) vehicle
4. What denominator is used in computing general fertility rate?
 - (a) Estimated midyear population
 - (b) Number of registered live births
 - (c) Number of pregnancies in the year
 - (d) Number of females of reproductive age.
5. The hallmark feature of an analytic epidemiologic study is:
 - (a) Use of an appropriate comparison group
 - (b) Laboratory confirmation of the diagnosis
 - (c) Publication in a peer-reviewed journal
 - (d) Statistical analysis using logistic regression

SHORT ANSWER QUESTIONS (35 MARKS)

1. With aid of a diagram explain the natural history of disease (5 marks)
2. Outline the four levels of disease prevention (4 marks)
3. State three (3) factors influencing population growth rate (besides births and deaths) (3 marks)
4. Explain any two (2) models of disease causation (6 marks)
5. Using stationary and constrictive pyramids explain types of country's population depicted by each (6 marks)
6. A researcher follows 140 women who exercise regularly and 240 women who do not exercise regularly. After 30 years of follow-up, 20 of the women in the exercise group are diagnosed with osteoporosis while 30 women in the non-exercise group are diagnosed with osteoporosis.
 - (a) Draw the 2X2 contingency table showing the disease and the exposure (exercise or not). (2 marks)

- (b) Calculate the relative risk of developing osteoporosis between the two groups. (Show your work.) (3 marks)
- (c) Calculate the absolute attributable risk resulting from exposure. (2 marks)
- 7. Explain any two (2) types of community needs assessments (4 marks)

LONG ANSWER QUESTION (30 MARKS)

- 1. As a county epidemiologist, it has been reported to you that there is an upsurge in the number of malaria cases in your County. **Using chain of infection**, explain the interventions you would put in place at every stage to minimize spread. (15 marks)
 - 2. Describe analytical studies in epidemiology (15 marks)
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