



**AMREF INTERNATIONAL UNIVERSITY  
SCHOOL OF MEDICAL SCIENCES  
DEPARTMENT OF NURSING & MIDWIFERY SCIENCES  
BACHELOR OF SCIENCE IN MIDWIFERY  
EXAMINATION- APRIL 2026**

**BSM 314: Epidemiology and Demography**

**DATE:** 7<sup>TH</sup> APRIL 2026

**DURATION:** 2 HOURS     **START:**2PM     **FINISH:** 4M

**INSTRUCTIONS**

1. This exam is out of 70 marks.
2. This Examination comprises THREE Sections. Section I: Multiple Choice Questions (20 marks), Section II: Short Answer Questions (30 marks), and Section III: Long Answer Questions (20 marks)
3. Answer ALL Questions
4. Do not write anything on the question paper
5. Use the back of your booklet for rough work if need be
6. Write your University Registration Number correctly on all pages of the booklet(s) used

**SECTION I: MULTIPLE CHOICE ANSWER QUESTIONS (20 MARKS)**

1. Maternal Mortality Ratio (MMR) is expressed in:
  - A. 10,000 livebirths
  - B. 1000 livebirths
  - C. 100,000 livebirths
  - D. 1000 livebirths
2. A factor or set of factors that inevitably produces the disease:
  - A. Necessary cause
  - B. Sufficient cause
  - C. Multifactorial etiology
  - D. Idiopathic cause
3. A study design that recruits study participants with the disease of interest and those without the disease of interest to find risk factors of the disease is known as:
  - A. Case-control study
  - B. Cohort study
  - C. Cross-sectional study
  - D. Ecological study
4. General Fertility Rate (GFR) is defined as the number of livebirths in one year divided by:
  - A. The number of women in the age group 15-49 years multiplied by 100,000
  - B. The number of women in the age group 15-49 years multiplied by 1000
  - C. The number of women in the age group 15-49 years multiplied by 10,000.
  - D. The number of women in the age group 15-49 years multiplied by 1000,000
5. Findings of a case-control study are expressed as:
  - A. Odds Ratio
  - B. Risk Ratio
  - C. Coefficients
  - D. Degrees of Freedom
6. Testing a specific hypothesis about the relationship of a disease to a putative cause by conducting an epidemiologic study that relates the exposure of interest to the disease of interest is known as:
  - A. Descriptive epidemiology
  - B. Field epidemiology
  - C. Clinical epidemiology
  - D. Analytical epidemiology
7. Results of a cohort study are expressed as:
  - A. Odds Ratio
  - B. Risk Ratio
  - C. Coefficients
  - D. Degrees of Freedom

8. A study design that recruits study participants exposed to a disease of interest and those not exposed to the disease of interest to find risk factors of the disease is known as:
  - A. Case-control study
  - B. Cross-sectional study
  - C. Ecological study
  - D. Cohort study
9. A correlation study is described as:
  - A. A descriptive study
  - B. Inferential study
  - C. Interventional study
  - D. Longitudinal study
10. The magnitude of disease burden among women of reproductive age is assessed through:
  - A. A case-control study
  - B. A cohort study
  - C. An experimental study
  - D. A descriptive cross-sectional study
11. Perinatal Mortality Rate (PMR) is defined as the number of:
  - A. Stillbirths and deaths of babies up to one week old per 1,000 live births
  - B. Stillbirths and deaths of babies up to four weeks old per 1,000 live births
  - C. Stillbirths and deaths of babies up to two weeks old per 1,000 live births
  - D. Stillbirths and deaths of babies up to three weeks old per 1,000 live births
12. Hypothesis is tested through:
  - A. Cross-sectional studies
  - B. Ecological studies
  - C. Case-studies
  - D. Case-control studies
13. Examining disease distribution in a population, observing the basic features of its distribution in terms of time, place, and person, is referred to as:
  - A. Analytical epidemiology
  - B. Descriptive epidemiology
  - C. Field epidemiology
  - D. Clinical epidemiology
14. The understanding that most diseases, especially non-communicable ones, result from a complex interaction of many factors:
  - A. Necessary cause
  - B. Sufficient cause
  - C. Multifactorial etiology
  - D. Idiopathic cause
15. Hypothesis is generated through:

- A. Analytical cross-sectional studies
  - B. A case-control study
  - C. A cohort study
  - D. Descriptive cross-sectional studies
16. The number of deaths due to maternal causes expressed per 1,000 women of reproductive age is referred to as: -
- A. Maternal mortality rate
  - B. Maternal mortality ratio
  - C. Maternal mortality death
  - D. Death of women of reproductive age
17. Direct disease transmission is known as:
- A. Vector borne
  - B. Vehicle borne
  - C. Person to person
  - D. Airborne
18. The crude death rate is often expressed as: -
- A. The number of deaths per 10,000 population
  - B. The number of deaths per 100,000 population
  - C. The number of deaths per 1,000 population
  - D. The number of deaths per 1000,000 population
19. The age-specific death rate is often expressed as: -
- A. Number of deaths per 10,000 persons of a specific age group
  - B. Number of deaths per 100,000 persons of a specific age group
  - C. Number of deaths per 1000,000 persons of a specific age group
  - D. Number of deaths per 1,000 persons of a specific age group
20. A factor that must be present for the disease to occur is called:
- A. Necessary cause
  - B. Sufficient cause
  - C. Multifactorial etiology
  - D. Idiopathic cause

## **SECTION II: SHORT ANSWER QUESTIONS (30 MARKS)**

1. Define the following terms:
  - a. Epidemiology **(1 mark)**
  - b. Demography **(1 mark)**
  - c. Health survey **(1 mark)**
  - d. Prevalence **(1 mark)**
  - e. Incidence **(1 mark)**
2. State five (5) sources of vital health statistics **(5 marks)**
3. With the aid of a diagram, describe the concept of the population pyramid in a developing country **(5 marks)**
4. Outline five (5) models of disease causation **(5 marks)**

5. State five (5) host characteristics associated with a high risk of diseases among women of reproductive age **(5 marks)**
6. Outline five (5) purposes of epidemiology in midwifery practice **(5 marks)**

**SECTION III: LONG ANSWER QUESTIONS (20 MARKS)**

1. As the County Director of Reproductive Health, you have been invited to provide a one-hour lecture to high school teachers on HIV/Aids, with the aid of a diagram describe the natural history of HIV/AIDs among women of reproductive age **(20 marks)**

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