



**SCHOOL OF NURSING**  
**DEPARTMENT OF COMMUNITY HEALTH AND MENTAL HEALTH NURSING**  
**BACHELOR OF SCIENCE IN NURSING**  
**END OF JANUARY 2022 SEMESTER EXAMINATION**  
**NUP 226: COMMUNITY HEALTH SCIENCE**

**MARKS-70**

**TIME ALLOWED: 2 1/2 HOURS**

**INSTRUCTIONS:**

- **All questions are compulsory**
- **Write your answers in the provided booklet**

**PART 1: MULTIPLE CHOICE QUESTIONS: 20 MARKS:**

1. The principle of environmental sustainability states that:
  - a. A polluter should bear the expense of carrying out pollution prevention and control measures.
  - b. A strong, just, and wealthy society can be consistent with a clean environment.
  - c. Preventive measures should be taken when an activity raises threats of harm to the environment.
  - d. All people in society should receive equal treatment with respect to environmental laws and policies.
2. Members of the population who are capable of developing a disease or condition are
  - a. Incident cases
  - b. Prevalent cases
  - c. The population at risk
  - d. The immune fraction
3. Comprehensive health and safety risk assessment in work place involves:
  - a. Identifying hazards in environment, work place policy implementation
  - b. Identifying hazards, documenting the risks, post exposure prophylaxis
  - c. Avoiding hazards, removing pollutants, ensuring proper lighting.
  - d. Assessing risks, identifying hazards, applying controls and reviewing effects

4. In environmental health, water based diseases are due to:
  - a. Vectors that leave near aquatic conditions
  - b. Poor quality of water
  - c. The presence of an aquatic host
  - d. Inadequate quantities of water
  
5. An abiotic environment that can affect health of the community is:
  - a. Infective organisms
  - b. Insects
  - c. Vegetation
  - d. Chemicals
  
6. A community health nurse implementing health programs with several populations in the local area. The situation the nurse will use for primary prevention is:
  - a. Performing a home safety check at a client's home
  - b. Teaching healthy nutrition to clients who have hypertension
  - c. Providing pneumonia immunizations to employees at a local preschool
  - d. Implementing a program to notify individuals exposed to a communicable disease
  
7. In the study of an Outbreak of an infectious disease, plotting an epidemic curve is useful because it:
  - a. Helps determine the type of outbreak
  - b. Shows whether herd immunity has occurred
  - c. May not determine the median incubation period
  - d. Helps determine the prevalence of disease
  
8. Age-adjusted death rates are used to:
  - a. Correct death rates for errors in the statement of age in the population
  - b. Determine the actual number of deaths that occurred in a specific age group in a population
  - c. Correct death rates for missing age information in the population subgroups
  - d. Eliminate the effect of differences in the age distributions of populations in comparing death rates
  
9. In urban cities, water carriage system used is:
  - a. Separate system
  - b. Combined system
  - c. Partially combined system
  - d. Partially separate system

10. Ecological studies are most useful for the following **Except**:
- Can be used To test a hypothesis
  - Entire populations to compare disease frequencies between different groups
  - Can be done in the same population at different points in time
  - Can be used in Formulation of a hypothesis
11. The following is a characteristic of a single exposure, common- vehicle outbreak
- Frequent secondary cases
  - Increasing severity with increasing age
  - Is normally explosive
  - Cases include both exposed and non-exposed
12. Base line rates are useful in Epidemiology because they:
- Are occurrences of health outcomes
  - May be compared with atypical events
  - Are gathered at the highest level of care
  - Are constant overtime
13. Biological Oxygen Demand (BOD) is connected with -----in water:
- Microbes and organic matter
  - Organic matter and solid waste
  - Microbes and Nitrates
  - Nitrates and solid waste
14. The method of choice for purification of highly polluted water on a large scale is:
- Boiling
  - Chlorination
  - Super chlorination followed by DE chlorination
  - Ultraviolet light treatment
15. The most common ways that a local health department uncovers outbreaks is:
- Performing descriptive analysis of surveillance data each week
  - Performing time series analysis to detect deviations from expected values based on the previous few weeks and comparable periods during the previous few years
  - Receiving calls from healthcare providers
  - Reviewing all case reports received each week to detect common features

16. The methods commonly used in Africa to measure population include:
- Census and civil registration.
  - Census and special surveys.
  - Civil registration and special surveys.
  - Census and ethnographic surveys.
17. The main purpose of hazard identification is :
- Minimize the effect of a consequence
  - For better risk management
  - To characterize adverse effect of toxins
  - To reduce probability of occurrence
18. Disease reporting systems can be categorized into two main types namely:
- Cohort and cross-sectional
  - Passive and active
  - Anonymous and mandatory
  - Cases and series
19. Absolute risk in Epidemiology refers to:
- The magnitude of the disease risk in a group of people with specific exposure
  - The strength of the association between an exposure and a disease
  - The proportion of disease risk that can be attributed to an exposure
  - The total number of population exposed to diseases
20. The 4 main groupings in the hierarchy of epidemiologic research designs from the strongest to the weakest include:
- Randomized clinical trials, Case Reports and case series, Cohort studies, Case control & cross section studies
  - Randomized Clinical Trials, Cohort studies, Case Reports and case series, Case control & cross section studies
  - Randomized control trials, Case Control & cross section Studies, Case Report and case series, Cohort studies
  - Randomized clinical trials, Cohort studies, Case Control and cross section studies, case Reports and Case series

**PART B: SHORT ANSWER QUESTIONS (SAQs): TOTAL MARKS-30**

1.
  - a. State 2 differences between a survey and surveillance (2Marks)
  - b. Define the following terms: (3marks)
    - i. Epidemiology.
    - ii. Proportion:
    - iii. Case fatality Rate
2. Explain 4 purposes of Descriptive Statistics in health (8Marks)
3. Outline 5 reasons why schools could be a good first source for epidemiologic evidence of a bioterrorist attack ( 5 Marks)
4. State 4 reasons Why maternal Mortality rate is a Sustainable Development Goal (SDG) indicator (4Marks)
5. State 4 factors that can affect population distribution and density of Kenya (4Marks)
6. In the Mid -year of 2018 there were 1500 reported under 1 year deaths in Guinea. The total number of live births reported during the same year 2018 was 200000.
  - a. a) Define infant mortality (1mark)
  - b. b) Calculate infant mortality rate in Guinea in 2018. (3 marks)

**PART C: LONG ANSWER QUESTION (LAQ) : (20MKS)**

1. Many factors combine together to affect the health of individuals and communities.
  - a. Define determinants of disease (1Mark)
  - b. State components of Epidemiological Triad (3Marks)
  - c. Describe 4 determinants of disease (16 Marks)

**THE END**