



## BRAINWARE UNIVERSITY

Term End Examination 2024-2025

Programme – MBA(HM)-2024

Course Name – Epidemiology and Public Health

Course Code - MHM20110

( Semester II )

Library  
Brainware University  
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Kolkata, West Bengal-700125

Full Marks : 60

Time : 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

### Group-A

(Multiple Choice Type Question)

1 x 15=15

1. Choose the correct alternative from the following :

(i) What is the primary focus of epidemiology?

- |                                        |                                        |
|----------------------------------------|----------------------------------------|
| a) Diagnosis of diseases.              | b) Prevention and control of diseases. |
| c) Development of surgical techniques. | d) Genetic modification of viruses.    |

(ii) Choose the correct definition of an epidemic from the below mentioned options.

- |                                                              |                                                                        |
|--------------------------------------------------------------|------------------------------------------------------------------------|
| a) A disease that occurs regularly in a specific population. | b) A disease that spreads rapidly to many individuals in a population. |
| c) A disease that occurs occasionally and irregularly.       | d) A disease that is restricted to one geographic region.              |

(iii) Which of the following best describes observational epidemiology?

- |                                                             |                                                                                      |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------|
| a) It involves manipulating variables to determine effects. | b) It focuses on observing and analyzing health-related states without intervention. |
| c) It is only concerned with infectious diseases.           | d) It requires laboratory experiments for data collection.                           |

(iv) Outline from the options enlisted below, the primary focus of analytical epidemiology.

- |                                                                      |                                               |
|----------------------------------------------------------------------|-----------------------------------------------|
| a) To describe the distribution of diseases in populations.          | b) To conduct laboratory experiments.         |
| c) To identify the causes and risk factors associated with diseases. | d) To provide treatment options for diseases. |

(v) Discover the significance of employing a case-control study design in the investigation of an epidemic from the below given options.

- a) It allows for the direct measurement of incidence rates in a population.
- c) It requires a large sample size to be effective.
- b) It is time-efficient and can quickly identify potential risk factors by comparing individuals with the disease to those without it.
- d) It eliminates all biases associated with observational studies.
- (vi) Assess the primary advantage of using a cohort study design in analytical epidemiology from the options enlisted below.
- a) It allows for the establishment of cause-and-effect relationships through controlled conditions.
- c) It follows a group over time to observe the effects of exposures on outcomes.
- b) It provides a snapshot of a population at a single point in time.
- d) It is less time-consuming than case-control studies.
- (vii) Choose the most effective public health strategy to reduce the incidence of Tuberculosis in a high-prevalence area from the following.
- a) Focus solely on treating existing cases without preventive measures.
- c) Implement a combination of vaccination, early detection, and treatment of active cases.
- b) Rely on community awareness campaigns without any medical intervention.
- d) Limit testing to only symptomatic individuals.
- (viii) Researchers make use of the data collected from a recent outbreak of Dengue fever to inform future prevention strategies. The most effective application of this data is to \_\_\_\_\_.
- a) Ignore the data and continue with previous strategies.
- c) Conduct a survey without any follow-up actions.
- b) Focus only on treating affected individuals without preventive measures.
- d) Analyze the environmental factors contributing to mosquito breeding and implement targeted vector control measures.
- (ix) From the options enlisted below, select the primary risk factor for developing Tetanus in adults.
- a) Incomplete vaccination history and infrequent booster shots.
- c) High levels of physical activity leading to injuries.
- b) Exposure to soil and dust without proper wound care.
- d) Exposure to contaminated water sources.
- (x) Find the key component of the Indian healthcare system that emphasizes upon primary healthcare.
- a) Tertiary care hospitals.
- c) Health insurance schemes.
- b) Private healthcare providers.
- d) Community health centers.
- (xi) Interpret the significance of public-private partnerships in healthcare.
- a) Eliminate government involvement in health.
- c) Combine resources and expertise to improve health services.
- b) Focus solely on profit-making.
- d) Operate independently without collaboration.
- (xii) Deduct from the following, the main challenge facing public health in the 21st century.
- a) Rise of xero drug resistant (XDR) microbial strains.
- c) Improved access to clean water.
- b) The rise of non-communicable diseases and antimicrobial resistance.
- d) Enhanced public health education.
- (xiii) Choose from the following, the primary objective of the Dengue Control Program in India.



- a) Increase the population of mosquitoes.
  - b) Promote the use of chemical pesticides.
  - c) Reduce the incidence and mortality associated with dengue fever.
  - d) Focus solely on urban areas.
- (xiv) Outline the target diseases covered under the Universal Immunisation Programme (UIP) from the following.
- a) Malaria.
  - b) Diabetes.
  - c) Hypertension.
  - d) Tuberculosis.
- (xv) Select the key component of the Reproductive and Child Health (RCH) Phase II program that enhances maternal health.
- a) Providing only child health services.
  - b) Focusing solely on reproductive health education.
  - c) Limiting access to antenatal care.
  - d) Integrating maternal health services with family planning and child health.

**Group-B**

(Short Answer Type Questions)

3 x 5=15

- 2. Apply the principles of epidemiology to develop a public health intervention for controlling Dengue outbreaks in urban areas. (3)
- 3. Explain the significance of the Sustainable Development Goals (SDGs) in shaping public health policies in India. (3)
- 4. Dissect the strengths and limitations of using cohort studies in observational epidemiology. (3)
- 5. Define the term Epidemiological Triad and state its components briefly. (3)
- 6. Evaluate the effectiveness of the Universal Immunisation Programme (UIP) in reducing vaccine-preventable diseases in India. (3)

**OR**

Justify the importance of the National Health Mission (NHM) in strengthening healthcare delivery systems in rural areas of India. (3)

**Group-C**

(Long Answer Type Questions)

5 x 6=30

- 7. Define the role of vector control in the prevention of Dengue and tell its significance in public health. (5)
- 8. Explain the significance of the social determinants of health in the context of observational epidemiology and epidemic investigations. (5)
- 9. Analyze the relationships between the Sustainable Development Goals (SDGs) and the National Health Policy (NHP) 2017 in shaping public health initiatives in India. (5)
- 10. Analyze the relationships between the components of the epidemiological triad and their impact on disease transmission. (5)
- 11. Examine the significance of the iceberg phenomenon of disease behind the true burden of illness in a population. (5)
- 12. Criticize the implementation of the Family Planning Program in India, focusing on its impact on women's health and autonomy. (5)

**OR**

Justify the need for a comprehensive approach to mental health that includes prevention, treatment, and rehabilitation. (5)