IIHMR DELHI | INTERNATIONAL INSTITUTE OF HEALTH MANAGEMENT RESEARCH

# Post Graduate Diploma in Management (Hospital & Health Management)

## PGDM – 2023-25 Batch

## 2nd Year – 3rd Semester End Examination

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| **Subject & Code** | : | **Applied Epidemiology-HEM 702** | **Reg. No.** | : | |
| **Semester & Batch** | : | **III, 2023-25** | **Date** | : | **07-10-2024** |
| **Time & Duration** | : | **10:30 A.M.-01:30 P.M. (3 Hrs.)** | **Max. Marks** | : | **70** |

**Instructions:**

- Budget your time as per the marks given for each question and write your answer accordingly.
- Don't write anything on the Question Paper except writing your Registration No.
- Mobile Phones are not allowed even for computations.

**Part A: Q.1 to Q.10 all questions are compulsory (10 X 2 Marks = 20 Marks)**

1. What is the purpose of calculating the attributable risk in epidemiology?
   a. To estimate the burden of disease in a population
   b. To assess the effectiveness of a preventive intervention
   c. To measure the prevalence of risk factors
   d. To identify the primary risk factor of a disease

2. Which of the following is an example of a secondary prevention strategy in epidemiology?
   a. Vaccination campaign
   b. Health education program
   c. Disease screening and management
   d. Genetic counselling for at-risk individuals

3. What is publication bias in epidemiology?
   a. Bias introduced by selective publication of studies with significant results
   b. Bias resulting from the inclusion of participants with diverse characteristics
   c. Bias introduced by the misclassification of exposure status
   d. Bias due to differences in the accuracy of measurements between study groups

4. Quarantine should be advised for which of the following individuals with respect to Mpox?
   a. A person who is travelling from an area with no Mpox outbreak
   b. A person who has tested positive for Mpox
   c. A person who reports close contact with a known case of Mpox
   d. None of the above

**Contd…2..**

5. The following question refers to which of the nine Bradford Hill criteria ?
"Has it been repeatedly observed by different persons, in different places, circumstances and times"?
   a. Strength of association
   b. Plausibility
   c. Consistency
   d. None of the above

6. In the context of infectious disease epidemiology, the proportion of susceptible individuals who become infected after being exposed to a primary case of the disease is known as _____ rate.

7. What is the herd immunity threshold?
   a. The minimum number of people that need to be infected for an outbreak
   b. The percentage of a population that must be immune to protect others
   c. The total number of vaccinated individuals in a community
   d. The rate of infection in a community

8. Matching is a strategy used to control for which type of bias?
   a. Volunteer bias
   b. Recall bias
   c. Interviewer bias
   d. Confounding

9. Which of the following is a key characteristic of diseases that are suitable for screening?
   a. The disease has high burden and is easily detectable in its early stages
   b. The disease is highly contagious
   c. The disease has high mortality with short incubation period
   d. The disease is rare and only occurs in older population

10. A public health department receives reports of an unusual increase in respiratory illnesses in a community. What is the first step they should take in their surveillance process?
   a. Notify the media about the outbreak
   b. Verify the data and investigate further
   c. Implement immediate quarantine measures
   d. Conduct a community-wide vaccination campaign

**Part B: Q.11 to Q.15 attempt any four questions (4 X 5 Marks = 20 Marks) – Short Notes**

11. In a study of mortality from diabetes, researchers calculate a Standardized Mortality Ratio of 150 for individuals with obesity compared to the standard population. For individuals without obesity, the Standardized Mortality Ratio is 70.

   i. What can you conclude about the relationship between obesity and mortality from diabetes based on these SMRs?
   ii. If obesity prevalence in the general population increases, what impact might that have on overall diabetes mortality?

**Contd…3..**

12. What is the main purpose of screening for diseases? what are the considerations for selecting a screening test for implementation in a programme?

13. List and explain the components of vector borne disease surveillance.

14. After a natural disaster, a community faces an outbreak of diarrhoeal diseases. How can understanding the epidemiological triad help emergency responders address the immediate health risk posed to the affected population?

15. Explain any five elements on which a health programme is evaluated, giving example of any health programme of your choice.

## Part C: Q.16 to Q.19 attempt any three questions (3 X 10 Marks = 30 Marks) – Long Notes

16. With respect to investigation of an outbreak, answer the following questions:
    i. What is a rapid response team and what is its composition?
    ii. What is the importance of constructing an epidemic curve?

17. With respect to epidemiological study designs, answer the following:
    i. Explain the difference between confounding and effect modification with a suitable example.
    ii. Explain the design and analysis of any one hybrid study design with a suitable example.

18. What is the difference between monitoring and evaluation in context of national health programmes? Frame five indicators you will use to evaluate the Universal Immunization Programme in India.

19. What are the objectives of disease surveillance? Differentiate between active and passive surveillance with specific examples from disease control programmes in India.