Enrolment No.: .....

IIHMR UNIVERSITY

Institute of Health Management Research

MBA Hospital and Health Management
Batch-27th (2022-2024) Hospital Management
Second Year, Term 6 End Term Examination, March 2024

HOM-717 Clinical Epidemiology

Time - 3 Hour **Maximum Marks: 50 (Minimum Marks: 20)**

Instructions to students:

- **This question paper contains 2 printed pages.**
- **Don't write anything on the Question Paper except writing your Enrolment No.**

Part A

(Maximum Marks: 5)

Q1. Choose the correct option for the following (1 mark each):

(a) The sensitivity of diagnostic tests is the proportion of people who have the disease classified correctly as having the disease by the screening test.
(i) True
(ii) False

(b) Is the prevalence of healthcare-associated infections a function of the incidence and duration of the disease?
(i) True
(ii) False

(c) The risk of Healthcare-Associated Infections in hospitals increases by all except:
(i) Use of Invasive Devices
(ii) Increase in New Admissions
(iii) Immuno-compromised patient
(iv) Improper Hospital Environment

(d) When does the need arise to conduct hospital-wide surveillance?
(i) When there are multiple patients reporting HAI from the Medical Ward.
(ii) When there are multiple patients reporting HAI from the Surgical Ward.
(iii) When there are multiple patients reporting HAI from the ICU.
(iv) None of the above

(e) A "double-blind" randomized trial of a new drug is one in which:
(i) The study group receives the new drug, and the control group receives a placebo.
(ii) Neither the observer nor subjects know the nature of the placebo.
(iii) Neither observer nor subjects know which subject receives the drug and which receives a placebo.
(iv) Neither the study group nor the control group knows the identity of the observers.

Part B

(Maximum Marks: 15)

Answer any three of the following.

Q2. In a study comparing Ig M ELISA with MAT for diagnosis of leptospirosis, both tests were conducted on 150 fever cases admitted to NMCH Calicut from July to August 2003. 72 samples were positive for MAT, out of which 58 were positive for Ig M ELISA. 46 patients were negative for both the tests. Calculate (5)

(i) Set up a 2x2 table for the findings.
(ii) Sensitivity
(iii) Specificity
(iv) Positive Predictive Values for IgM ELISA as compared to MAT.
(v) Negative Predictive Values for IgM ELISA as compared to MAT.

Q3. State the types of surveillance and explain each with an example of healthcare-associated infections. (5)

Q4. State the difference between Diagnostic and Prognostic research with examples. (5)

Q5. Explain the incidence and prevalence of healthcare-associated infections with examples. Also, explain how you will calculate the incidence and prevalence of HAI. (5)

Part C

(Maximum Marks: 30)

Answer any two of the following, in detail.

Q6. Explain what Central line-associated bloodstream infections are and briefly explain the steps for planning and implementing surveillance for Central line-associated bloodstream infections in a 100-bed hospital. Also, explain what steps you would take to prevent future infections. (15)

Q7. What is the prognosis, and explain how is prognostic research conducted? (15)

Q8. What are clinical trials and their phases? Explain hospital-based clinical trials, the role of hospitals in trials, and reporting of serious adverse events. (15)