

**POSTGRADUATE INSTITUTE OF MEDICINE**  
**UNIVERSITY OF COLOMBO**

**MD (MEDICAL ADMINISTRATION) PART I EXAMINATION – MAY 2025**

**Date:-** 15<sup>th</sup> May 2025

**Time:-** 9.00 a.m. – 12.00 noon

**PAPER I**

Answer **all five (05)** questions.

Answer each question in a separate book.

1. A screening test of known sensitivity (95%) and specificity (80%) is applied to two populations. The prevalence of the disease being screened for, is 10% in population A, and 1% in population B.
  - 1.1. What is the false positive rate in population A and population B?  
(30 marks)
  - 1.2. What is the false negative rate in population A and population B?  
(30 marks)
  - 1.3. To what population (A or B) you would recommend the screening test?  
Justify your answer. (40 marks)
2. Currently Open MRS based Electronic Medical Record system (EMR) is used for the cluster information management in Sri Lanka to facilitate information sharing and collaboration among different health facilities ensuring continuity of care in selected provinces. This concept is going to be expanded to other provinces too.
  - 2.1. Describe the key functionalities of above EMR used as the cluster information system in Sri Lanka highlighting how it supports health service delivery within a cluster. (40 marks)
  - 2.2. As a Regional Director of Health Services, outline your approach to ensure effective implementation and sustainability of the above EMR in your region. (60 marks)
3.
  - 3.1. Describe the stages of the health policy-making process. (40 marks)
  - 3.2. Discuss how evidence, stakeholders, and political ideologies influence policy development and decision-making. (40 marks)
  - 3.3. Outline the factors that should be considered in writing a policy brief. (20 marks)

4. A healthcare researcher aims to investigate the association between smoking habits (smoker vs. non-smoker) and the prevalence of hypertension (high blood pressure) among adults aged 30 - 50 years in a rural community. A cross-sectional study is conducted with a sample of 300 participants

The data is summarized in the following 2×2 contingency table:

Smoking status	Hypertension		Total
	Yes	No	
Smoker	55	60	115
Non-smoker	45	140	185
Total	100	200	300

- 4.1. What is a cross-sectional descriptive study? (05 marks)
- 4.2. Do you agree with the study design used in this study? Justify your answer. (10 marks)
- 4.3. Identify the independent and dependent variables in this study and their scales of measurement. (10 marks)
- 4.4. Formulate a null hypothesis for this study. (15 marks)
- 4.5. Use a suitable statistical test to determine if there is a significant association between smoking and hypertension. (40 marks)
- 4.6. Interpret the findings in the context of public health. (20 marks)
- 5.
- 5.1. Define the following:
- 5.1.1. Confidence Interval (05 marks)
- 5.1.2. Z score (05 marks)
- 5.1.3. p value (05 marks)
- 5.2. A household survey was conducted in 2 provinces (A and B) in Sri Lanka involving 400 households each. The proportion of households with adequate food security (based on a standard food security tool) was 10% in province A in contrast to 30% in Province B.
- 5.2.1. Summarize data in a 2x2 table. (20 marks)
- 5.2.2. Researcher wants to investigate whether food security status was higher in province B than A.  
Name two (02) tests of significance appropriate for this assessment. (20 marks)
- 5.2.3. Calculate the significance using one of the tests mentioned above and interpret your findings. (indicate all steps of your analysis). (45 marks)

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**MD (MEDICAL ADMINISTRATION) PART II EXAMINATION**  
**OCTOBER 2025**

**Date:-** 9<sup>th</sup> October 2025

**Time:-** 9.00 a.m. - 12.00 noon

**PAPER I**

Answer **all five (05)** questions.

Answer each question in a separate book.

1. A major fire has broken out in the surgical intensive care unit (SICU) of your 1000-bed Teaching Hospital during visiting hours. Initial reports indicate multiple casualties and significant damage to critical infrastructure. The hospital's switchboard is overwhelmed with calls from the media and anxious relatives.
  - 1.1. As the Director of the hospital, outline your immediate actions in the first two hours following the disaster. (25 marks)
  - 1.2. Discuss your next course of action (over the subsequent 72 hours) for managing this situation. (25 marks)
  
2. The Out Patient Department (OPD) of secondary and tertiary care institutions is overcrowded due to many patients bypassing primary care institutions and going to the higher level of institutions for minor ailments.

In order to overcome this problem, it is decided to convert existing field maternal and child health clinics into primary care units called "Arogya centers" which will provide a variety of services. One primary care unit will serve around 5,000 - 10,000 population.

  - 2.1. As a Medical Administrator, critically evaluate the above concept. (20 marks)
  - 2.2. Outline five (05) key obstacles you may encounter in implementing this concept. (15 marks)
  - 2.3. Discuss about the services that could be provided in such centers, with justification for your answer. (15 marks)

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3. You are the Director of a Teaching Hospital. It has been brought to your attention that there are a variety of complaints regarding the quality of service at the medical laboratory of this hospital.
- 3.1. Describe the possible causes for this situation. (15 marks)
- 3.2. What measures will you take to rectify this situation? (20 marks)
- 3.3. What steps would you take for the accreditation of this laboratory to the national level? (15 marks)
4. The Institute of Medicine (IOM) defines quality of care as “the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge”.
- Critique this statement justifying with examples. (50 marks)
- 5.
- 5.1. What is the importance of workforce planning in the health sector? (10 marks)
- 5.2. List three (03) workforce planning methods. (05 marks)
- 5.3. Briefly describe three (03) strategies to retain skilled health professionals in the rural or underserved areas. (15 marks)
- 5.4. “Leadership and communication can enhance teamwork in health care settings.” Critique this statement. (20 marks)

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**SELECTION EXAMINATION FOR POSTGRADUATE DIPLOMA IN HEALTH**  
**SECTOR DISASTER MANAGEMENT – DECEMBER 2025**

Date: - 22<sup>nd</sup> December 2025

Time:- 1.00 p.m. – 4.00 p.m.

**STRUCTURED ESSAY QUESTION PAPER**

Answer all five (05) questions.

1. You are serving as the Medical Superintendent of a Base Hospital in Monaragala District.
  - 1.1 List the important components of an effective hospital disaster preparedness plan. (10 marks)
  - 1.2 Outline how you would obtain assistance from nearby health institutions. (20 marks)
  - 1.3 Outline the importance of inter-agency coordination with ambulance services, police, military, etc. (30 marks)
  - 1.4 Discuss advantages and disadvantages of stockpiling essential medicines and equipment to be used in the event of a disaster or emergency. (40 marks)
  
2. Following recent severe floods in the North-Western Province, over 200 villagers were displaced and are currently sheltered in a crowded community hall. As the Medical Officer of Health, you are directed by the Provincial Director of Health Services to visit the site seven days after the floods to assess and coordinate the health response.
  - 2.1 List ten (10) priority health and social issues you would expect to find among the displaced population at the time of your visit. (40 marks)
  - 2.2 List five (05) non-health organizations that could assist in managing the issues described in 2.1 and specify the role of each organization. (20 marks)
  - 2.3 Describe the steps you would take to ensure the psychological well-being of the flood-affected population. (40 marks)

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3.
  - 3.1 List the phases of the disaster management cycle. (15 marks)
  - 3.2 Describe how natural disasters impact health services. (40 marks)
  - 3.3 List five (05) vulnerable groups needing special attention during disasters. (15 marks)
  - 3.4 Describe special requirements needed by two of the groups mentioned in 3.3. (30 marks)
  
4. A safe location (camp) for 100 families is to be established after a massive landslide in the area you are serving as the Medical Officer of Health.
  - 4.1 Describe the concept of minimum standards in health emergency response. (15 marks)
  - 4.2 List three (03) crowding and five (05) communicable disease risks in camps. (25 marks)
  - 4.3 Discuss the challenges you are likely to face when providing health services to such a community. (30 marks)
  - 4.4 Outline how you would ensure safety, dignity, and protection of occupants. (30 marks)
  
5. You are serving as a Medical Officer of Health in an area with frequent floods and landslides.
  - 5.1 Describe how you would reduce the flood and landslide risk in the area. (40 marks)
  - 5.2 List the early warning systems available for the above scenario. (20 marks)
  - 5.3 Explain the importance of early warning systems and risk communication. (40 marks)