

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

**MD (MEDICAL ADMINISTRATION) PART I EXAMINATION –**  
**JANUARY 2016**

**Date :- 4<sup>th</sup> January 2016**

**Time :- 1.00 p.m. – 4.00 p.m.**

**PAPER I**

Answer question one (01) and three (03) other questions.  
Answer each question in a separate book.

1.

1.1. Pain management is an important area in management of cancers. It is planned to carry out a research study using WHO pain management protocol. Cancer patients with pain were randomly allocated to two groups. One group was treated using the current protocol and the other group was treated with WHO pain management protocol. Patients were not aware of their mode of treatment but the treating physician was aware.

The pre intervention pain score was obtained before the study and a post intervention pain score was obtained after treating for one month.

(a) Discuss the steps in designing this research study? (25 marks)

(b) Discuss the bias that will come to the study as the treating physicians are aware of the pain management protocol? (15 marks)

Contd.../2-

- 1.2. The following are the results of a survey carried out by a Blood Bank.

Blood Type	Male	Female	Total
<b>O</b>	0.21	0.21	<b>0.42</b>
<b>A</b>	0.215	0.215	<b>0.43</b>
<b>B</b>	0.055	0.055	<b>0.11</b>
<b>AB</b>	0.02	0.02	<b>0.04</b>
<b>Total</b>	<b>0.50</b>	<b>0.50</b>	<b>1.00</b>

- (a) Find the probability of a randomly selected person having either blood type O or A? (04 marks)
- (b) Find the probability of a randomly selected person being a male and having blood type O? (04 marks)
- 1.3. List two (02) properties of the following
- (a) Inter-quartile range (IQR) (04marks)
- (b) Normal distribution (04 marks)
- (c) Coefficient of Variation (CV) (04marks)
- 1.4. The mean height of soldiers in a regiment was 173.58 cm with a variance of 27.13 cm<sup>2</sup>. How many soldiers would you expect to be taller than 180 cm. This regiment had 1000 soldiers. (20 marks)

2.

- 2.1. What are the researcher's ethical responsibilities in carrying out a research? (10 marks)
- 2.2. Discuss the "scientific misconduct" in research and how would you avoid these? (20 marks)

Contd...../3-

2.3. Discuss the different functions of following hospital committees.  
(10 marks)

(a) Hospital Ethics Committee (or Clinical Ethics Committee)

(b) Hospital Research Ethics Committee (or Ethics Review Committee)

3.

3.1. What is “programme evaluation”? (05marks)

3.2. What are the different purposes of conducting “programme evaluation”? (10 marks)

3.3. You have been appointed as a member of the Evaluation Team to evaluate the performance of the “Healthy Lifestyle Centres” in a District.

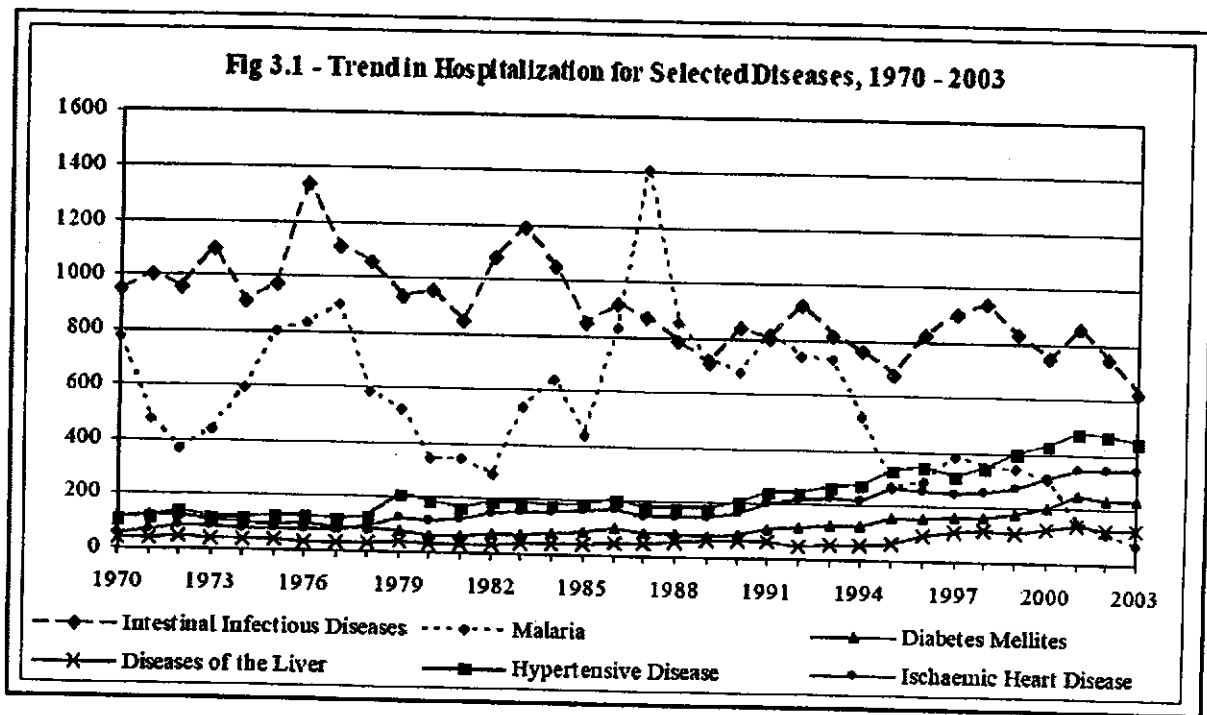
Discuss the steps you will take in planning the “programme evaluation” of the Healthy Lifestyle Centres in the district.  
(25 marks)

4. Ministry of Health has developed a new midwifery curriculum and 700 midwifery students will be enrolled 100 each for the seven regional training institutions in the country. Teacher trainers from these regional institutions will be trained on the new concepts, skills, and standard methods for midwifery education.

As the Director of the National Institute of Health Sciences (NIHS), how would you design a project to evaluate the effectiveness of the teacher training programme?  
(40 marks)

Contd.../4-

5. The graph below (Figure 3.1) taken from the Annual Health Bulletin shows the trends in hospitalization for selected diseases in Sri Lanka.



Rate per 100,000 population

Source: Medical Statistics Unit

- 5.1. Comment on the trends displayed. (05marks)
- 5.2. Outline the principles based on which you would prioritize the disease problems seen in the figure. (10 marks)
- 5.3. Discuss how would you plan for prevention of one of the prioritized diseases. (25 marks)
6. Safe surgical check list was introduced by the Ministry of Health in 2013. In a District General Hospital it was found that only 60% of the major surgeries and 10% of minor surgeries have been performed adhering to the guidelines.
- 6.1. Identify the possible causes for the above situation. (15 marks)
- 6.2. Design an intervention project to overcome this issue. (25 marks)

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**MD (MEDICAL ADMINISTRATION) PART I EXAMINATION –**  
**JANUARY 2016**

**Date :- 5<sup>th</sup> January 2016**

**Time :- 9.00 a.m. – 12.00 noon**

**PAPER II**

Answer question one (01) and three (03) other questions.  
Answer each question in a separate book.

1.

1.1. Discuss what do you understand by Strategic Management Triangle. (20 marks)

1.2. List out the issues in strategy formulation. Discuss these issues in relation to a District General Hospital. (20 marks)

1.3.

(a) Define “Strategic Drift”. (05 marks)

(b) What are the Strategic Drift Generic phases in relation to amount of change and time? Illustrate your answer. (15 marks)

(c) Discuss each of the phases of Strategic Drift in relation to a 300 bedded private hospital in Colombo. (20 marks)

2. Considering the increasing incidence of chronic kidney diseases in the country, the Ministry of health proposes to set up kidney transplant programmes in tertiary care hospitals where vascular surgeons are employed.

2.1. What steps will you follow in setting up a transplant programme in such a hospital? (10 marks)

2.2. Explain the salient features of your proposed transplant programme. (15 marks)

2.3. What issues including professional conflicts would you expect in launching a transplant programme in this hospital. (15 marks)

Contd..../2-

3. Sri Lanka will be able to achieve its target of a per capita income of USD 4,000 faster than planned.

You are invited as a medical administrator of the ministry of health to deliver a lecture for the political authority and other ministry officials on health and environmental impact of income growth.

- 3.1. How would you define the growth and development? (05 marks)
- 3.2. How would you explain the expected impact on health and social indicators giving examples? (10 marks)
- 3.3. In your capacity, how would you combat these challenges? (15 marks)
- 3.4. How would you forecast financing of two such specific disease control programmes? (10 marks)

4.

- 4.1. Define following concepts in relation to medical equipment management

(a) Reliability (05 marks)

(b) Maintainability (05 marks)

(c) Overall Equipment Effectiveness (05 marks)

- 4.2. There are eight ventilators in the ICU of District General Hospital X. It is found that four ventilators are functional. Calculate the instantaneous availability of ventilators. (05 marks)

- 4.3. As a Medical Administrator how would you overcome 'downtime' of medical equipment in your ICU? (20 marks)

5. Discuss the importance of value change management with the examples in relation to drug supply process of the Medical Supplies Division of the Ministry of Health. (40 marks)

6. Regional Director of Health Services (RDHS) notices that there is satisfactory clinic attendance in relation to Non Communicable Disease patients (NCD). However, premature mortality due to NCDs and stroke victims are observed to be increasing in past two years.

- 6.1. What are the possible causes? (10 marks)
- 6.2. Discuss how you would design a medium term plan to improve the situation? (20 marks)
- 6.3. What steps would you take to strengthen capacity of Human Resource for Health to address the above issue? (10 marks)