

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

**MD (MEDICAL ADMINISTRATION) PART I EXAMINATION –**  
**JANUARY 2014**

Date :- 08<sup>th</sup> January 2014

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. Ministry of Health has requested you to write a concept paper to obtain a research grant to assess medical administrators' contribution for better performance of secondary and tertiary care level hospitals in Sri Lanka in comparison to most countries in South East Asian Region.
  - 1.1. What data and information (giving examples) will you consider to be included in your introduction and justification? (25 marks)
  - 1.2. What will be your general objective and specific objectives for this research project? (15 marks)
  - 1.3. Discuss in detail the methodology including qualitative and quantitative methods, significant tests, you propose for this study. (40 marks)

2. A tertiary care hospital is interested in testing the hypotheses that by participation in Work Improvement Teams (WIT) will result in increased productivity and reduced absenteeism in an Operating Theatre (OT). A questionnaire is administered to a group of 92 employees concerning their attitudes towards this programme and 46 with the most favourable attitudes who are willing to participate are selected for the treatment group. The remaining 46 are the control group. Measures of performance (major surgeries/month for the group) and absenteeism (lost days/month for the group) are kept over a three month period during which the treatment group has weekly meetings. The results are as follows :

	Month 1	Month 2	Month 3	Month 1	Month 2	Month 3
	Performance			Absenteeism		
Treatment	100	115	121	6	9	4
Control	110	108	113	6	8	5

The Director calculates "t" tests between month 1 and 3. The only significant difference is performance for the treatment group. The Director concludes that this raise productivity but do not have an effect on absenteeism.

- 2.1. What are the possible alternative explanations for the differences (or lack of differences) between the two groups? (20 marks)
- 2.2. What additional information might help explain these results? (20 marks)
- 3.
- 3.1. Discuss with examples the differences between health systems research and health policy research. (20 marks)
- 3.2. Discuss standards for effective evaluation at each step of the programme evaluation process. (20 marks)

4.
  - 4.1. What are the advantages of using Electronic Health Records (HER) over paper based records in health care delivery. (15 marks)
  - 4.2. Discuss briefly the challenges faced in changing over to an HER system from a paper based system. (25 marks)
  
5. A case control study was carried out in a RDHS division to evaluate the relationship between several risk factors and Myocardial Infarction (MI). It was found that smokers were at a higher risk of getting MI (OR = 2.14)
  - 5.1. Calculate the proportion of the smokers who could avoid a MI if they were to stop smoking completely. (20 marks)
  - 5.2. How do you interpret this result and outline your plan for future course of action. (20 marks)
  
6.
  - 6.1. Compare and contrast the strengths and weakness of qualitative research methods versus quantitative research methods in conducting empirical research on macro organizational issues. (15 marks)
  - 6.2. Discuss how validity could be improved in qualitative and quantitative research methods. (25 marks)

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**Date :-** 9<sup>th</sup> January 2014

**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. A private hospital in an urban setting with 75 beds has decided to expand to a 200 bedded hospital as a BOI project.
  - 1.1. As a management consultant how will you conduct a strategic environment analysis to get competitive advantage over the competitors. (40 marks)
  - 1.2. Discuss the usefulness of Porter's five forces analysis to determine it's business strategy. (40 marks)
  
2.
  - 2.1. Describe health promotion, community participation, advocacy and behaviour change communication. (20 marks)
  - 2.2. Discuss how you will facilitate health promotion as a RDHS in a district. (20 marks)
  
3. Ministry of Health is implementing a cost accounting programme in selected secondary and tertiary care level hospitals in Sri Lanka.
  - 3.1. As a medical administrator, how would you identify cost centres in a tertiary care level hospital? (15 marks)
  - 3.2. Discuss the methods and techniques you will use to arrive at per patient cost. (25 marks)

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- 4.
- 4.1. Explain why ethics is important to medical administrators.(10 marks)
  - 4.2. Describe how physicians should behave towards one another, with special reference to a medical administrator. (10 marks)
  - 4.3. Explain the justification for patient confidentiality. How do you recognize legitimate exceptions to confidentiality? (10 marks)
  - 4.4. How would you identify and deal with ethical issues involved in allocating scarce medical resources. (10 marks)

- 5.
- 5.1. Briefly explain the term “job” (05 marks)
  - 5.2. Describe the usefulness of job analysis, job specification and job description for a job position. (15 marks)
  - 5.3. Discuss the strategic HRM responsibilities of a chief pharmacist in a district general hospital. (20 marks)

6. There are many definitions of quality of care, however the proposed definition given by the Institute of Medicine (IOM) has been widely accepted and as follows.

“The degree to which health services for individuals and population increase the likelihood of desired health outcomes and are consistent with current professional knowledge” (IOM 1990).

But scholars says that this definition focuses only on technical aspect of the healthcare quality.

Critically analyse this statement with your justification. (40 marks)

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**MD (MEDICAL ADMINISTRATION) PART I EXAMINATION**  
**JANUARY 2015**

Date :- 20<sup>th</sup> January 2015

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. As the Regional Director of Health Services you have realized that the rate of breastfeeding is comparatively low compared to the national rate. You have decided to carry out a survey to explore the possible reasons for such disparity.
  - 1.1. Describe the methodology you will undertake to follow to carry out this study. (20 marks)
  - 1.2. Discuss the advantages and disadvantages of using interviewer-administered and self-administered questionnaires for this study. (20 marks)
  - 1.3. A similar study has revealed that the level of breast feeding among urban and rural mothers as follows :-

Group	Number	Mean	SD
Urban mothers	71	87	4.4
Rural mothers	49	78	4.1

- 1.3.1. Write the null hypothesis and the alternative hypothesis for the situation given above? (05 marks)
- 1.3.2. Is there a statistically significant difference in the level of breast feeding between the two groups? (15 marks)
- 1.3.3. State the exact probability at which we say that the difference observed is not due to chance? (05 marks)
- 1.3.4. What are the alternative explanations for the observed difference? (15 marks)

2. A study was carried out among patients attending the Medical Clinic of a tertiary care hospital to assess the responsiveness of the services provided. The independent variables assessed are as follows: prompt attention, communication by the provider, autonomy, basic human needs, and choice of the provider. The study was carried out among 280 patients attended the medical clinic during a one month period.

2.1. The correlation coefficients for the associations between the responsiveness and the individual independent variables are given below. Interpret the result. (20 marks)

Variable	Correlation coefficient	Significance
prompt attention	0.41	p=0.04
communication by the provider	0.82	p=0.003
Autonomy	0.09	p=0.67
Basic human needs	0.76	p=0.02
choice of the provider	0.18	p=0.81

2.2. A logistic regression model was applied to assess the association between the responsiveness and the individual independent variables studied. Interpret the findings of the logistic regression model. (20 marks)

#### Summary findings of the logistic regression model

Predictor variable	$\beta$ (Regression coefficient)	SE ( $\beta$ )	p value	Adjusted odds ratio	95% CI for adjusted odds ratio
Prompt attention	1.472	0.624	0.018	4.359	1.284-14.799
Communication by the provider	2.774	1.181	0.019	16.020	1.583-162.163
Autonomy	1.163	0.322	0.621	1.071	-0.922-1.556
Basic human needs	1.935	0.981	0.933	1.045	-0.071 - 2.866
Choice of the provider	1.620	0.666	0.015	5.052	1.368-18.651
Constant	0.692	0.663	0.297	1.997	

3.

3.1. Discuss the importance of ethical principals in research and their relevance in National context? (15 marks)

3.2. A researcher has submitted a research proposal to conduct a research involving patients in his ward to assess the risk of cardiovascular disease among patients diagnosed with type II Diabetes Mellitus comparing below and above 40 years of age.

As the Chairman of the Ethical Review Committee, discuss what criteria you will look at before giving concurrence to carry out this study? (25 marks)

4. Ministry of Health has decided to revise the Public Health Inspector's (PHI) curriculum to give emphasis on food hygiene and environmental health. Discuss what procedures you will adopt to develop the new curriculum.

5.

5.1. Discuss different sampling methods giving examples. (20 marks)

5.2. Discuss the difference between data base and search engine. (10 marks)

5.3. You have found a useful abstract in a med-line search. List the possible steps you would take to access the full article.

6. Considering the current fertility services availability and service provision is there a need for national population and reproductive health policy in Sri Lanka. Discuss. (40 marks)



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**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. As the Medical Superintendent of Nuwara-Eliya District General Hospital you have been asked to make a presentation to Secretary to Ministry on "Importance of strategic environment" in order to <sup>Assess</sup> access the current status.

1.1. Outline main variables related to Nuwara-Eliya region and prepare a TOWS matrix with some proposed strategies for the year 2015. (40 marks)

1.2. "The McKinsey 7S model shows why you can not change any one aspect of an organization in isolation"

Explain the above statement highlighting "hard" and "soft" elements related to your hospital. (40 marks)

- 2.
- 2.1. What is Human Failure Modes and Effect Analysis (FMEA)? Define Failure mode, potential effects of failure and potential causes of failure. (20 marks)
- 2.2. List out the Human Failure Modes and Effect Analysis process steps with suitable examples in relation to performing Lower Segment Cesarean Section (LSCS) in a operation theater. (20 marks)

Contd..../2-

3.
  - 3.1. What are the four (04) types of Cost of Quality? Give examples to each type in relation to a DGH. (20 marks)
  - 3.2. *Discuss the advantages of quality costs for management.* (20 marks)
  
4. A District Medical Officer going through the Medical clinic statistics finds out that though the patients had regular clinic visits and continuous medication, no hypertension control or diabetic control had taken place. There are many sudden deaths and stroke victims as well. District medical officer wants to pilot a behaviour change program. You are the RDHS and the DMO has come for your guidance and support. Discuss
  - 4.1. What advice will you give the DMO? (20 marks)
  - 4.2. What support will you render? (20 marks)
  
5. Critique the statement "Sri Lanka health sector is not presently geared to promote and meet the needs of medical travellers" (40 marks)
  
6. The number of MBBS medical officers seeking government employment is expected to exceed the demand by the year 2020. What advice will you provide as a consultant to the Ministry to address this issue? (40 marks)