POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MSc (COMMUNITY MEDICINE/COMMUNITY DENTISTRY) EXAMINATION - (NEW SYLLABUS) - NOVEMBER 2017

Date :- 28th November 2017   **Time :-** 9.00 a.m. - 12.00 noon

PAPER I

Community Medicine candidates should answer **all six (06) questions in Parts A and B.**

Community Dentistry candidates should answer **all six (06) question in Part A and C.**

Each question to be answered in a separate book.

PART A

1. A researcher is planning to estimate the prevalence of hypertension in the adult population in Colombo district. A previous study has estimated the prevalence of hypertension at 24% in adults 18 years and above in the district. The researcher wants to estimate the prevalence to be within ±4%. It is anticipated that 15% would refuse to participate in the study.

    1.1. Calculate the sample size required to estimate prevalence of hypertension, stating two (02) assumptions.   (20 marks)

    1.2. Describe an appropriate sampling method for the above mentioned study, with reasons for your choice and limitations.   (30 marks)

    1.3. The researcher wants to investigate whether high salt consumption is associated with hypertension in adults. Suggest a suitable study design and outline the methods that should follow in testing this hypothesis.   (50 marks)

2. A study was designed to assess if a new drug 'X' would deliver healthier pre term babies than dexamethasone. Fifteen women who were in pre term labour were randomized to obtain the new drug and dexamethasone, among which eight women receive the new drug. The outcome is the APGAR score indicator measured 5 minutes after birth. The data are shown below.

	APGAR score							
New drug 'X'	8	7	6	2	5	8	7	3
With Dexamethasone	9	9	7	8	10	9	6	

2.1. Describe how randomization would be performed and discuss the advantages of randomization. (25 marks)

2.2. Justify with reasons the statistical test that you would choose to show if there is a difference in the two groups of treatment. (35 marks)

2.3. If the critical value for this test with $n_1=8$, $n_2=7$ and $\alpha =0.05$ is 10, and the test statistics that you calculated is 9.5 interpret the results.

(20 marks)

2.4. Discuss the limitations in choosing the above test (20 marks)

3. The following table was extracted from the Sri Lanka Demographic and Health Survey 2016 regarding nutritional status of children less than 5 years of age.

Wealth quintile	A. Percentage underweight	B. Mean weight-for-age Z score	Number of children
Lowest	27.6	-1.4	1599
Second	24.5	-1.3	1625
Middle	20.9	-1.1	1590
Fourth	16.1	-1.0	1690
Highest	12.5	-0.7	1404
Total	20.5	-1.1	7908

3.1. Discuss the results shown in the table. (30 marks)

3.2. Mention one (01) additional statistical parameter each that can be included to enhance the value of information in column A and B separately. (30 marks)

3.3. State two (02) hypotheses for the results shown in the table. (20 marks)

3.4. Write one (01) statistical test each for the hypotheses you mentioned above (20 marks)

PART B

4. Twenty six year old Sandunika who is a school teacher has given birth to her first baby one month ago. At present, she is on maternity leave and she is planning to return to work at the end of 84 working days. Sandunika's husband is a businessman and he drops Sandunika at school which is about 2 km from her home. Sandunika and her husband have come to the postnatal clinic held at the MOH office with their one month old baby. They inquire about the options for infant feeding once she returns to work.

4.1. As the MOH conducting the postnatal clinic, describe your advice to Sandunika and her husband in order to continue exclusive breastfeeding up to complete 6 months. (40 marks)

4.2. List ten (10) benefits of breastfeeding. (10 marks)

4.3. List ten (10) risk of artificial feeding. (10 marks)

4.4. As the MOH monitoring the implementation of the breast feeding programme in your area, name two (02) indicators that you would use to monitor the programme. (20 marks)

4.5. Describe briefly how you would evaluate status of breast feeding among working mothers in your area. (20 marks)

5.
5.1. Chemicals although essential can cause serious health issues due to mismanagement. Describe measures that you would take as a MOH to ensure health of workers in a garment factory handling chemicals. (35 marks)

5.2. As the MOH, during a routine workplace inspection you have found out that food wastage in a garment factory is significantly high. Describe measures that you would take to reduce food wastage in this workplace. (30 marks)

5.3. Health care staff is particularly at risk of adverse health issues due to the nature of their employment. As the head of the institution (MOH), explain briefly how you would ensure occupational health for your staff. (35 marks)

6. Explain the course of action that you would take as the MOH for the following environmental health issues.

6.1. Mismanagement of solid waste in your MOH area. (50 marks)

6.2. Inappropriate discharge of hazardous chemicals (hazardous liquid waste) into the environment by a paint manufacturing factory in your MOH area. (50 marks)

PART C

7.

   7.1. Outline the topical action of fluorides in prevention and control of dental caries. (30 marks)

   7.2. Outline three (03) health messages for mothers on fluoride use for their children aged 1- 3 years with early childhood dental caries. (30 marks)

   7.3. Critically comment on the practice of advertising non-fluoridated tooth pastes for school children. (40 marks)

8. Critically discuss the following statements

   8.1. Sri Lanka has been successful in reducing poverty as indicated by National Poverty Head Count Ratios described in successive Household Expenditure and Income Surveys. (40 marks)

   8.2. Findings of previous National Oral Health Surveys revealed reductions in prevalence of dental caries among 6-year and 12-year old school children. (30 marks)

   8.3. The burden of oral cancer in Sri Lanka demonstrates marked social inequalities. (30 marks)

9. Health Human Resource Planning is a vital component of a health system.

   9.1. Describe the factors that should be considered in dental health workforce planning in Sri Lanka. (60 marks)

   9.2. Describe the role of dental auxillaries in dental care provision in Sri Lanka. (40 marks)

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MSc (COMMUNITY MEDICINE/COMMUNITY DENTISTRY) EXAMINATION - (NEW SYLLABUS) - NOVEMBER 2017

Date :- 29th November 2017   **Time :-** 1.00 p.m. - 4.00 p.m.

PAPER II

Answer all six (06) questions.
Each question to be answered in a separate book.

1.

    1.1. Outline the current (2017) National Immunization Schedule of Sri Lanka (age and the index vaccine). (20 marks)

    1.2. Briefly describe the measures taken to ensure Human Papilloma Virus (HPV) vaccine safety in a school vaccination session. (40 marks)

    1.3. Briefly outline how adverse events following immunization (AEFI) are classified giving examples. (40 marks)

2. Increased occurrence of diabetes mellitus was noted among patients aged 40 - 50 years attending Health Institutions in a district. The Regional Director of Health Services has invited all MOOH in the district to develop a long term plan to address this issue. The district will receive a significant fund allocation to address the issue over the next 5 years.

    2.1. What are the risk factors for diabetes mellitus in the 40 - 50 year age group? (25 marks)

    2.2. Construct a matrix of primary and secondary target groups that need to be addressed. (25 marks)

    2.3. As a MOH select two primary target groups and list out practical interventions that could be adopted over the next 5 years. (25 marks)

    2.4. Describe what other facilities/interventions are needed at primary level curative health institutions to prevent diabetes in this age group. (25 marks)

3.

    3.1. Describe how the physical body, mind and memory work together for cohesive behaviour of an individual. (50 marks)

    3.2. Mr. Nimal complains that he tends to forget his work since of late and frequently loses his temper. A Psychiatrist has excluded any psychiatric illness.
Discuss how the three inter-connected components mentioned in 3.1. can be re-adjusted to help Mr. Nimal to overcome his problems. (50 marks)

4.

    4.1. Differentiate between elimination of a disease and elimination of a disease as a public health problem. (20 marks)

    4.2. List three (03) diseases that have been eliminated from Sri Lanka. (15 marks)

    4.3. List two (02) diseases that have been eliminated as a public health problem in Sri Lanka. (10 marks)

    4.4. List three (03) basic criteria that should be fulfilled before launching a disease elimination programme. (15 marks)

    4.5. Briefly describe the strategies that have been implemented to prevent re-introduction of malaria in Sri Lanka. (40 marks)

5. Discuss briefly the importance of the following, giving one (01) example in each to illustrate your answer.

    5.1. Global Health Agendas can make a powerful effect on improving national level health outcomes. (35 marks)

    5.2. Use of evidence generated through cost related studies in health can be highly effective for political advocacy. (35 marks)

    5.3. The skill mix in human resources in health is as important as the number of health staff available to provide care. (30 marks)

6. A Chief Executive Officer (ECO) of a factory with 300 workers noticed that the work force is stressed and unhappy.

    6.1. Describe possible reasons for the above situation. (40 marks)

    6.2. Discuss a strategy to improve the mental health status of the workers in the above factory. (60 marks)