

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

SELECTION EXAMINATION FOR MSc (COMMUNITY DENTISTRY)
SEPTEMBER 2023

Date:- 15th September 2023

Time:- 9.00 a.m. – 12.00 noon

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

Answer each question in a **separate book**.

PART A

1. Fluoride toothpaste is recommended by dental professionals to be used at least twice a day, typically in the morning and before bedtime, as a part of regular oral health care. Amidst the proven efficacy of fluoride toothpaste in dental caries prevention, there is a recent trend of increasing use of tooth powders instead of fluoride toothpaste in Sri Lanka.
 - 1.1. List five (05) factors that may have contributed to the above scenario. (20 marks)
 - 1.2. State the current regulatory status/provisions related to fluoride toothpaste in Sri Lanka. (30 marks)
 - 1.3. As a Regional Dental Surgeon, outline the steps you would follow to plan and implement a programme to ensure optimum delivery of fluoride to improve the oral health of general public in your district. (50 marks)
2. There is an alarming trend of using commercially prepared areca nut in packet form (with or without smokeless tobacco) among teenagers. An innovative health promotion programme to reduce the oral health risks associated with this harmful habit is planned to be conducted in a rural Medical Officer of Health area.
 - 2.1. List five (05) factors within the area that may be responsible for this emerging risk behaviour. (20 marks)
 - 2.2. As the Community Dental Surgeon of the area, state the different stakeholders that you would work with to address this problem. (20 marks)
 - 2.3. Based upon the principles of health promotion, outline the actions you would recommend to reduce this problem among teenagers. (40 marks)
 - 2.4. State how you would evaluate the recommended actions mentioned in 2.3. (20 marks)

3. According to the World Bank Flagship Report titled “Global Economic Prospects 2023”, small states (countries) are being severely affected by overlapping crises and multiple challenges in the post COVID-19 era aggravated by natural disasters and climatic change. Sri Lanka, as at present is battling a major economic crisis and extreme weather conditions.
- 3.1. Outline the impact of the economic crisis and extreme weather conditions on population oral health status in Sri Lanka. (25 marks)
- 3.2. Outline the impact of the economic crisis on public oral health care services in Sri Lanka. (25 marks)
- 3.3. Discuss the importance of preventive oral health care to improve population oral health amidst the economic crisis. (50 marks)

PART B

4.

- 4.1. A researcher wishes to study the prevalence and factors associated with anaemia among children under 5 years of age in a selected Medical Officer of Health area.
- 4.1.1. State the most appropriate study design giving reasons. (20 marks)
- 4.1.2. State two (02) advantages and two (02) disadvantages of the study design mentioned in 4.1.1. (20 marks)
- 4.2. “The cause specific death rate in Sri Lanka is highest for cardiovascular diseases. However, case fatality is highest for lung cancer”. Discuss this statement. (30 marks)
- 4.3. List five (05) ethical issues that should be taken into consideration when conducting a randomized control trial. (30 marks)

5. A case-control study was conducted to determine the risk factors of leptospirosis. The study included 100 patients with leptospirosis as cases and 200 participants without leptospirosis as controls.

5.1. State the case: control ratio in the above study. (05 marks)

The baseline characteristics of the cases and controls are given below.

Variable	Cases (n=100)	Controls (n=200)	p Value
Age: Mean (SD) years	41.3 (8.2)	44.2 (9.1)	0.008
Sex: Male n (%)	66 (66.0%)	139 (69.5%)	0.539

5.2. State the most appropriate statistical test to be used for the following, giving reasons.

5.2.1. to compare the mean age between the two groups. (15 marks)

5.2.2. to compare the sex distribution between the two groups. (15 marks)

5.3. Comment on the statistical significance of the

5.3.1. difference in mean age between the two groups. (05 marks)

5.3.2. sex distribution between the two groups. (05 marks)

5.4. The association between the involvement in farming activities and having leptospirosis was calculated and the findings are given below.

	Cases	Controls	Odds ratio	95% Confidence Interval	p value
Involved in farming activities	65	87	2.4	1.5-3.9	<0.001
Not involved in farming activities	35	113			

Interpret the association between the involvement in farming activities and having leptospirosis. (40 marks)

5.5. Based on the findings, an education session about leptospirosis was conducted for a selected group of 200 farmers. The knowledge of farmers was assessed on a scale from 0 to 100 using the same questionnaire before and after the education session.

Mention the most appropriate statistical test to compare the mean pre and post-knowledge scores in the group of farmers giving reasons. (15 marks)

