

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

SELECTION EXAMINATION FOR MSc (COMMUNITY DENTISTRY)
OCTOBER 2021

Date: 18th October 2021

Time: 1.00 p.m. – 4.00 p.m.

Answer **all five** questions.

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

PART A

1. Topical application of fluoride is one of the most effective ways to prevent dental caries.
 - 1.1. List four (4) methods of topical application of fluoride. (20 marks)
 - 1.2. Describe briefly the mode of action of fluoride in preventing dental caries. (20 marks)
 - 1.3. Describe the factors you would consider for topical fluoride application. (30 marks)
 - 1.4. Discuss the role of School Dental Therapists in topical application of fluoride. (30 marks)
2. Write notes on the following:
 - 2.1. Using social media to disseminate oral health information. (30 marks)
 - 2.2. Effectiveness of fissure sealants in preventing dental caries. (30 marks)
 - 2.3. Role of Regional Dental Surgeon in the provision of oral health care to children less than 3 years in Sri Lanka. (40 marks)
3.
 - 3.1. Define the term '5-year survival rate of oral cancer'. (10 marks)
 - 3.2. Explain the possible reasons for the current 5-year survival rate of oral cancer patients in Sri Lanka. (20 marks)
 - 3.3. Outline the services a dental surgeon can provide to improve the 5-year survival rate of oral cancer. (30 marks)
 - 3.4. Discuss the cost effectiveness of the methods available to improve the 5-year survival rate of oral cancer. (40 marks)

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Part B

- 4.
- 4.1. State the scale of measurement of the following variables: (20 marks)
- 4.1.1. Serum fasting blood glucose level.
- 4.1.2. Body temperature in Celcius scale.
- 4.1.3. Ethnicity.
- 4.1.4. Social class.
- 4.2. Indicate the statistical test that is appropriate for the following analyses, giving reasons. (40 marks)
- 4.2.1. To compare mean heights (in centimetres) of urban and rural children matched for age and sex.
- 4.2.2. To compare the frequencies of vegetarians among Buddhist and Hindu students in the University of Colombo.
- 4.2.3. To compare the mean marks scored for Mathematics by Year-11 students in a selected school with the national mean mark for Mathematics.
- 4.2.4. To determine the association of the weight of pregnant women with their period of amenorrhoea (POA).
- 4.3. An intervention study was conducted to investigate the effect of a nutritional intervention for pregnant women on the birthweight of their offspring. The findings of the study are summarized below.

Group	Mean birthweight	95% Confidence Interval
Intervention	3.3 kg	2.7 – 3.5 kg
Control	2.5 kg	2.2 – 2.8 kg

Interpret the effectiveness of the intervention in increasing the birthweight. (40 marks)

5. Given below are the findings from a retrospective cohort study, which compared the outcomes of vaccination for SARS-CoV 2 among children aged 12 – 17 years. Data on infections, hospital admissions, ICU admissions and deaths due to SARS-CoV 2 (as measures of effectiveness of vaccination) and the occurrence of myocarditis (as a possible adverse effect), during a period of 180 days, were extracted from secondary data.

Parameters	Vaccinated population (n=500,000)	Non-vaccinated population (n=1,500,000)
Number of SARS-CoV 2 infections	2440	12540
Number of hospitalizations due to SARS-CoV 2 infection	105	1950
Number of ICU admissions due to SARS-CoV 2 infection	15	540
Number of deaths due to SARS-CoV 2 infection	1	75
Number of myocarditis cases	65	35

- 5.1. Calculate the relevant measures-of-association to determine the effectiveness and safety of the vaccine for SARS-CoV 2 in children aged 12 – 17 years. (40 marks)
- 5.2. Comment on the effectiveness and safety of the vaccine for SARS-CoV 2 in children aged 12 – 17 years. (60 marks)

