POSTGRADUATE INSTITUE OF MEDICINE
UNIVERSITY OF COLOMBO

SELECTION EXAMINATION FOR MSc (COMMUNITY DENTISTRY)
NOVEMBER 2025

Date:- 21st November 2025 **Time:-** 9.30 a.m. – 12.30 p.m.

PART A

1. Sri Lanka's oral-health service model has historically focused on curative clinical care. Global evidence emphasizes population-based prevention as the sustainable approach for reducing oral disease burden and improving equity.

   1.1. List four (04) weaknesses of the current curative-dominant oral-health service model. (20 marks)

   1.2. Describe the three (03) key components of a preventive, population-based oral-health service model. (30 marks)

   1.3. Briefly explain five (05) organizational and financing reforms required to shift the system towards preventive oral health care. (35 marks)

   1.4. List five (05) ways in which the progress of such preventive reforms can be monitored and evaluated. (15 marks)

2. Oral diseases and non-communicable diseases (NCDs) share common risk factors, allowing integration of existing NCD prevention efforts for oral diseases prevention as well.

   2.1. Name four (04) national programmes for NCD prevention where oral health can be integrated. (20 marks)

   2.2. Briefly explain five (05) key elements of the shared risk-factor model linking oral diseases with NCDs. (25 marks)

   2.3. Discuss barriers to this integration at policy, system and provider levels. (35 marks)

   2.4. Propose four (04) strategies to overcome these barriers mentioned in 2.3. (20 marks)

Contd...../2-

3. Fluoride is considered one of the most evidence-based and cost-effective public health interventions for the prevention of dental caries.

3.1. List four (04) systemic fluoride delivery methods used in community-based caries prevention programmes. (20 marks)

3.2. Briefly describe three (03) key factors to consider prior to selection of a community-based fluoride intervention programme. (30 marks)

3.3. Compare water fluoridation and school-based fluoride varnish programmes in terms of cost-effectiveness and equity of access in a resource-constrained setting. (40 marks)

3.4. List two (02) fluoride surveillance indicators that should be included in national monitoring and evaluation frameworks. (10 marks)

Part B

4. A researcher wants to study the psychological wellbeing of the medical doctors working in different types of curative care institutions in Colombo district. Using a self-administered questionnaire the researcher will assess psychological wellbeing and its associated factors.

4.1. Name the most appropriate study design for this study. (15 marks)

4.2. If the researcher wants to get a representation of medical doctors from all types of hospitals, name the most appropriate sampling method for this study. (15 marks)

4.3. State two (02) advantages and disadvantages of the sampling technique mentioned in 4.2. (20 marks)

4.4. Name the epidemiological measure that can be used to describe psychological wellbeing among the medical doctors of Colombo district. (10 marks)

4.5. If the association between psychological wellbeing (good and poor) and the sex of the study participants (male and female) needs to be tested, name the most appropriate statistical test to be used, giving reasons. (20 marks)

4.6. List five (05) ethical aspects that need to be considered when conducting this study. (20 marks)

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5. A new point-of-care rapid test for detecting pre-diabetes was evaluated in a community screening programme. A total of 300 adults were tested using both the new test and the standard laboratory HbA1c test (gold standard).

	Gold Standard Positive	**Gold Standard Negative**	**Total**
New Test Positive	54	21	75
New Test Negative	06	219	225
Total	60	240	300

5.1. State the number of true positives, false positives, false negatives, and true negatives for the new test. (20 marks)

5.2. Calculate sensitivity, specificity, Positive Predictive Value (PPV), and Negative Predictive Value (NPV) of the new test. (40 marks)

5.3. Interpret the results and comment on the suitability of the new test for community screening of pre-diabetes. (20 marks)

5.4. List three (03) practical considerations before introducing the test in primary healthcare settings. (20 marks)