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POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MSc (COMMUNITY MEDICINE/COMMUNITY DENTISTRY)
EXAMINATION – NOVEMBER 2018

Date :- 27th November 2018

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) questions in Part A and C.**

Each question to be answered in a separate book.

Part A

1. A population-based follow up study was conducted among 4800 adult males to determine the association between lifestyle-related risk factors and ischaemic heart disease. Baseline assessment revealed that there were 960 smokers in the sample.
After ten years of follow up, 384 new cases of ischemic heart disease were reported among smokers while 768 new cases occurred in non-smokers.
 - 1.1. Make a suitable table to display the above data. (20 marks)
 - 1.2. Calculate the relevant measures of association for the exposure. (45 marks)
 - 1.3. The government is willing to provide funds for a preventive programme targeting the exposure. Giving reasons indicate what measure of association you would use to convince policy makers for the need of a prevention programme. (35 marks)

2. A researcher wants to examine the relationship between maternal iodine intake in pregnancy and childhood neurodevelopment at 18 months. The primary outcome of childhood neurodevelopment is to be assessed using a scale with a composite score. Development delay is defined as a score of <85 . The daily iodine intake during pregnancy is to be assessed using a food frequency questionnaire that reports iodine rich food intake over the previous month. WHO recommends 250 $\mu\text{g}/\text{day}$ of iodine for pregnant women.
- 2.1. Suggest a suitable study design, giving reasons for your choice. (10 marks)
 - 2.2. List the parameters required to calculate the sample size to test the hypothesis. (20 marks)
 - 2.3. Explain how you would test the hypothesis using an appropriate statistical test. (30 marks)
 - 2.4. List two (02) measures to ensure validity of the food frequency questionnaire. (10 marks)
 - 2.5. The researcher assumes that maternal age, parity, and maternal education are potential confounders. State how you would address the effects of confounding. (30 marks)
- 3.
- 3.1. A brochure inviting subscriptions for a new diet programme states that the participants are expected to **lose over 10 kg in five weeks**. From the data of the five-week programme, the mean and standard deviation of weight losses of 64 participants were 8 kg and 1.6 kg, respectively.
Could the statement in the brochure be substantiated on the basis of these findings? Test at $\alpha = 0.05$ level. (50 marks)
 - 3.2. The mean systolic blood pressure of Sri Lankan adult males is 122 mmHg with a standard deviation of 15 mmHg. The Ministry of Health is investigating if the mean systolic blood pressure of adult Sri Lankan females is greater than that of males.
Describe how you would minimise Type II error when testing the above hypothesis. (20 marks)
 - 3.3. A random sample of 100 newborns had a mean birth weight of 2600 g with a standard deviation of 150 g. Compute the 95% confidence interval for the population mean. (30 marks)

Part B

4. In a national level assessment of views of adolescents on their place of preference for receiving health care, 75% of adolescents preferred field clinics conducted by Medical Officers of Health (MOHs) compared to hospital-based clinics.
- 4.1. Define the terms “adolescent”, “youth” and “young persons”. (15 marks)
 - 4.2. List the available health care services for young persons in Sri Lanka. (20 marks)
 - 4.3. Discuss the specific factors that should be considered in providing health care services during adolescence. (30 marks)
 - 4.4. In MOH area A, adolescent registration in the field is 12%. As the MOH of this area, discuss how you would strengthen the provision of adolescent and youth friendly health services in your area. (35 marks)
- 5.
- 5.1. Describe the actions that could be carried out by 15-18-year-old school children to mitigate and adapt to climate change. (50 marks)
 - 5.2. Define the term “occupational diseases”. (10 marks)
 - 5.3. Briefly describe the measures that need to be taken to strengthen occupational disease surveillance in Sri Lanka. (40 marks)
- 6.
- 6.1. Describe chronologically the important factors that have contributed to population explosion in Sri Lanka. (40 marks)
 - 6.2. List the health and social problems which have resulted from population explosion. (20 marks)
 - 6.3. Discuss the challenges faced by health staff when providing health care services for the elderly in Sri Lanka. (40 marks)

Part C

- 7.
- 7.1. Name three (03) components of the Maternal and Child Health (MCH) Programme to which oral health is incorporated. (15 marks)
 - 7.2. List four (04) objectives of the national programme to provide oral healthcare during pregnancy. (20 marks)
 - 7.3. As a dental surgeon appointed to a Medical Officer of Health (MOH) area, describe your plan to improve the implementation and monitoring of the programme mentioned in 7.2. (65 marks)
- 8.
- 8.1. According to 'Oral Health Surveys – Basic Methods', what index age groups should be examined in national level oral health surveys. (10 marks)
 - 8.2. Describe briefly the rationale for selecting the index age groups mentioned in 8.1. (30 marks)
 - 8.3. Explain the measures that could be taken to improve the quality of data in national oral health surveys. (60 marks)
9. Discuss the following statements:
- 9.1. "High risk strategy is better than the population strategy in prevention of oral cancers in Sri Lanka". (40 marks)
 - 9.2. "Dental caries is considered as a disorder of social deprivation while dental erosion is considered a disorder of affluence". (30 marks)
 - 9.3. "A ban on cigarette sales in single sticks will reduce smoking in Sri Lanka". (30 marks)

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PAPER II

Answer all six (06) questions.

Each question to be answered in a separate book.

1.
 - 1.1. List four (04) food related risk factors for chronic non communicable diseases (NCD). (20 marks)
 - 1.2. Many international fast food chains are opening restaurants in Sri Lanka. This is at a time when non communicable diseases (NCDs) burden in the country is increasing and health sector is proposing many interventions related to healthy diet.

Prepare a short discussion paper with key arguments for revising the trade policy of the country to restrict opening of the domestic market for international fast food chains. (60 marks)
 - 1.3. List five (05) activities that could be carried out through existing health programmes to address healthy eating practices. (20 marks)
2. You have been appointed to be a member in a committee to develop a five year development plan for a district in Sri Lanka. Your task is to adequately incorporate health promotion in this plan.
 - 2.1. Outline three (03) main approaches for health promotion that you will incorporate in the plan. (20 marks)
 - 2.2. Briefly describe one (01) health promotion activity in each of the following areas stating the health promotion approach selected. (80 marks)
 - 2.2.1. Substance abuse
 - 2.2.2. Gender based violence
 - 2.2.3. Elderly care
 - 2.2.4. Oral health

3.
 - 3.1. Define the term “rehabilitation”, (10 marks)
 - 3.2. A 42-year-old mason suffered a stroke. He was discharged from the hospital with residual disabilities in upper and lower limbs requiring rehabilitation. His speech was not affected.
 - 3.2.1. Describe what resources in the community could be mobilized for this patient. (30 marks)
 - 3.2.2. Describe a comprehensive rehabilitation programme that could be applied for such patients. (60 marks)
4.
 - 4.1. Sri Lanka is planning for measles and rubella elimination in 2020. Describe the key strategies used to achieve measles and rubella elimination over the years. (50 marks)
 - 4.2. Sri Lanka had introduced the Inactivated Polio vaccine (IPV) into the National Immunization schedule in 2015. Briefly describe the scientific rationale of introduction of IPV into the National immunization schedule. (25 marks)
 - 4.3. A 10-year-old child presents with Acute flaccid paralysis (AFP). List the responsibilities of hospital/ward staff and MOH office staff. (25 marks)
5. Suicides, self-harm behaviour and violence among adolescents and youth are increasingly reported in the country.
 - 5.1. Discuss the factors that could have led to this situation. (40 marks)
 - 5.2. Describe the key strategies to prevent suicide and violence among adolescents and youth. (60 marks)
6.
 - 6.1. Discuss the role of political advocacy in the health policy process. (30 marks)
 - 6.2. The Ministry of Health recognizes the importance of introducing continuing professional education to improve quality of human resources in health as well as to improve effective health service delivery. Outline the steps in this policy process on continuing professional development. (70 marks)