Faculty of Medicine, University of Ruhuna
Third Examination for Medical Degrees (Part II) May 2023
Community Medicine Paper I
Tuesday 9th May 2023

Answer all 05 questions   **(9.00 a.m. - 12.00 noon) 3 hours**
Answer each question in a separate book

PART A

1.

1.1. State two **(02)** examples for each the following.

    1.1.1 Discrete variables   **(10 marks)**
    1.1.2 Interval scale measurements   **(10 marks)**
    1.1.3 Normally distributed variables   **(10 marks)**
    1.1.4 Non-probability sampling methods   **(10 marks)**
    1.1.5 Binary variables   **(10 marks)**

1.2. Before the covid pandemic, on average 1000 admissions per month were recorded in the medical wards of the Teaching Hospital Karapitiya (THK) with a standard deviation of 100. During the COVID 19 period of 2020, the number of patients admitted to the medical wards of THK in each month of the year was as follows. 1200, 900, 1000, 1100, 800, 900, 1300, 1000, 1100, 1200, 900, 800

A researcher wants to assess whether admissions to medical wards of THK has changed during the year 2020.

    1.2.1 State the null and alternative hypothesis   **(10 marks)**
    1.2.2 Test your hypothesis at $\alpha = 0.05$ level   **(30 marks)**
    1.2.3 What is the conclusion?   **(10 marks)**

PART B

2.

2.1.

    2.1.1 Briefly describe the measures of fertility   **(35 marks)**

    2.1.2 Define "Replacement level fertility"   **(15 marks)**

2.2.

    2.2.1 List the vaccines given to a child up to the completion of five years of age according to the National

    Immunization Schedule of Sri Lanka with the corresponding age it is given.

    (20 marks)

    2.2.2 Name five **(05)** cold chain equipment.   **(15 marks)**

    2.2.3 State the interpretation of the Vaccine Vial Monitor (VVM)   **(15 marks)**

PART C

3. A 5-year-old child was brought to the Child Welfare Clinic for weighing. The weight of the child was recorded in the purple zone of the growth chart. The direction of the growth curve indicated a steep rise. The child was referred to the Medical Officer of Health (MOH) for further action.

3.1. List two **(02)** anthropometric measurements that would help the MOH to assess the

nutritional status of this child. **(10 marks)**

3.2. State two **(02)** non-nutritional causes for the above observation in the growth chart. **(10 marks)**

3.3. Briefly describe the important aspects in history that would help the MOH to

determine the cause for the observed growth pattern? **(30 marks)**

3.4. Outline the dietary management of this child if the observed findings are due to

inappropriate dietary intake. **(40 marks)**

3.5. State the follow-up action that should be taken by the MOH if the dietary management
mentioned in 3.4 fails to achieve the desired weight. **(10 marks)**

PART D

4.

4.1. According to World Health Organization (WHO), over two billion people use drinking water contaminated

with faces.

4.1.1 List five **(05)** disease conditions that would result due to the above mentioned

public health problem. **(10 marks)**

4.1.2 List WHO criteria used in assessing the drinking water quality. **(10 marks)**

4.1.3 What is meant by 'Drinking Water Quality Surveillance'? **(10 marks)**

4.1.4 Outline five **(05)** other control strategies adopted in Sri Lanka for the prevention of food

and water borne disease. **(20 marks)**

4.2.

4.2.1 Briefly describe occupational health problems of tea factory workers in Sri Lanka. **(30 marks)**

4.2.2 Discuss the method which could be adopted to prevent one of the occupational health problems
mentioned in 4.2.1 **(20 marks)**

PART E

5.

5.1. A cruise ship with 2500 foreigners reached the Colombo harbour. The authorities were informed that there is a diarrheal outbreak on the ship and was asked to investigate to find the source of the disease.

> **5.1.1** Name the responsible officer in investigating this diarrheal outbreak   **(10 marks)**
>
> **5.1.2** Define the term 'disease outbreak'   **(10 marks)**
>
> **5.1.3** Briefly describe the steps the steps in investigating the outbreak   **(40 marks)**

5.2. After the initial steps, you have collected data on all possible **exposures** (food items consumed, drinking water sources etc.) and their **disease status** (having the disease or not) from all individuals in the ship.

> **5.2.1** State the study design you would use to identify the source of the disease by giving reasons
>
>   **(25 marks)**
>
> **5.2.2** Mention measure/s of associations you are going to calculate in your study.   **(15 marks)**