



RAJARATA UNIVERSITY OF SRI LANKA

FACULTY OF APPLIED SCIENCES

B.Sc. in Health Promotion

Second Year – Semester I Examination – May/June 2022

HPT 2104 – INTRODUCTION TO EPIDEMIOLOGY

Time: One and half (1 ½) hours

Answer **ALL** questions.

1. a) Answer the questions based on the information given below.

“Lung cancer is the leading cause of cancer deaths in a country. In the year 2022 there will be 173,770 new cases of lung cancer and 160,000 deaths due to lung cancer. The mid-year population of the country A in 2022 is 292,200,000.”

i. Calculate the mortality rate of lung cancer. (15 marks)

ii. Calculate the annual incidence of lung cancer. (15 marks)

iii. Outline the advantages of calculating incidence of lung cancer (15 marks)

- b) Answer the questions based on the information given below.

“Antiretroviral drugs for HIV/AIDS were introduced in the year 1987. This has increased the average survival time of HIV patients considerably.”

i. Discuss how this situation has affected the prevalence of HIV/AIDS. (25 marks)

ii. Explain whether prevalence can be used to measure the risk of developing HIV/AIDS within a country. (30 marks)

2. a) List **three (03)** types of selection bias. (15 marks)

b) Outline the methods to minimize the effect of confounding in epidemiological research. (20 marks)

c) Explain the relationship between bias and the quality of an epidemiological study. (25 marks)

d) Discuss giving examples how to minimize recall bias in an epidemiological study. (40 marks)

3. Write short notes on following topics.

- a) Validity and reliability of a research (25 marks)
- b) Types of causal relationships in epidemiology (25 marks)
- c) Advantages of cohort study design (25 marks)
- d) Blinding used in randomized controlled trials (25 marks)

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