RAJARATA UNIVERSITY OF SRI LANKA
FACULTY OF APPLIED SCIENCES

B.Sc. (General) Degree in Health Promotion
Second Year - Semester I Examination – June/July 2018

HPT 2104 – INTRODUCTION TO EPIDEMIOLOGY

Time: One and half (1 ½) hours

Answer <u>ALL</u> questions.

1. a) In a hospital-based study of the association between coffee consumption and the occurrence of stroke, a group of patients hospitalized after suffering a stroke was compared to a control population hospitalized for other reasons. The patients hospitalized for stroke were found to consume significantly more coffee than the controls.

   i.   Comment on the study design.   **(10 marks)**

   ii   Discuss the potential bias as in this study.   **(20 marks)**

   iii. Outline the advantages of using this study design to establish association between coffee
         drinking and strokes.   **(15 marks)**

   b) Explain how the increase in average survival time of diabetes patients influences the
       prevalence of the disease in a population.   **(30 marks)**

   c) Randomised controlled trial (RCT) is the best epidemiological study design to establish
       causation. Discuss this statement.   **(25 marks)**

2. In a study designed to establish the relationship of heart diseases and diet, rresearchers selected a group of 425 vegetarians and 575 non-vegetarians. After 15 years, 32 of the vegetarians and 84 of the non-vegetarians developed heart diseases.

   a) Draw a contingency (2x2) table to summarize these results.   **(15 marks)**

   b) Calculate the absolute risk of heart diseases among non-vegetarians.   **(10 marks)**

   c) Calculate the absolute risk of heart diseases among vegetarians.   **(10 marks)**

d) Calculate the risk of heart disease attributable to the vegetarian diet of this population.

(15 marks)

e) Calculate the relative risk of heart disease among non-vegetarians comparing to vegetarians.

(20 marks)

f) Based on the relative risk calculated above (part e), explain the relationship between heart diseases and diet. **(15 marks)**

g) Using the information provided above, comment on the type of study used here.

(15 marks)

3. Write short notes on following;

a) Selection bias in epidemiological studies

b) Cross sectional study design

c) Bradford Hill Criteria on causation

d) Incidence

[25 x 4 = 100 marks]

- **END -**