



Professional Qualification in Public Health Management Level 4 Diploma

UNIT 4 – Introduction to Epidemiology and Statistics

Question 1

- (a) Explain why epidemiology is classified as a science. (10 marks)
- (b) Explain how human behaviour (such as whether people follow government advice to avoid gathering in large groups during a pandemic) can make predicting the spread of a new virus through a population difficult. (10 marks)

Question 2

Harriet is a student of epidemiology who is carrying out a research project as part of her course. Her project is about whether people follow government guidance on wearing a face covering in shops to prevent the spread of a new virus. Harriet observes shoppers at two shops and counts how many are wearing face coverings and how many are not. Discuss the advantages and disadvantages of choosing an observational research method for this project. (20 marks)

Question 3

- (a) Describe what is meant by statistics, giving at least THREE examples from public health. (8 marks)
- (b) Explain the meanings of the words, 'validity' and 'reliability' in statistics and why these are important for epidemiologists to consider when analysing data. (12 marks)

Question 4

- (a) Explain why a frequency distribution graph is normally a bell-shaped curve but may be skewed. (14 marks)
- (b) Explain why there may be outliers on a frequency distribution graph. (6 marks)

Question 5

- (a) Assess the advantages and disadvantages of tables and graphs to present data. (10 marks)
- (b) Assess the advantages and disadvantages of using scatter plots and bar charts to present data. (10 marks)