



Professional Qualification in
COMPUTING AND INFORMATION SYSTEMS
Level 4 Diploma

UNIT 4 – INFORMATION PRESENTATION AND ANALYSIS

Question 1

- (a) Distinguish between the statistical terms 'population' and 'sample'. (5 marks)
- (b) Explain how to calculate a population mean. (5 marks)

Question 2

- (a) Describe the significance of a standard Normal distribution. (5 marks)
- (b) In a sample, explain how to calculate the standard deviation. (5 marks)

Question 3

- (a) Describe **ONE** example of how a national Government may make use of statistical methods. (5 marks)
- (b) Describe **ONE** example of how probability theory may be used in weather forecasting. (5 marks)

Question 4

- (a) State what is meant by the term 'statistical inference'. (2 marks)
- (b) Identify **TWO** advantages of statistical inference. (4 marks)
- (c) Identify **TWO** disadvantages of statistical inference. (4 marks)

Question 5

Discuss the relative merits of presenting data as a table and as a bar chart. (10 marks)

Question 6

- (a) State what is meant by the term 'box plot'. (2 marks)
- (b) Identify **TWO** advantages of using a box plot to represent data. (4 marks)
- (c) Identify **TWO** disadvantages of using a box plot to represent data. (4 marks)

Question 7

Discuss the differences in the interpretation of the mean under different distributions with varying skew and varying kurtosis. (10 marks)

Question 8

- (a) Describe the circumstances in which a parametric test may be used over a non parametric one. (5 marks)
- (b) Explain where a non-parametric test may be more appropriate. (5 marks)

Question 9

Discuss the influence of positivism on empirical research. (10 marks)

Question 10

- (a) State what is meant by the term 'quantitative measurement'. (2 marks)
- (b) Identify **TWO** features of quantitative data. (4 marks)
- (c) Identify **TWO** differences between quantitative and qualitative data. (4 marks)