



Professional Qualification in COMPUTING AND INFORMATION SYSTEMS

Level 4 Diploma

UNIT 4 – INFORMATION PRESENTATION AND ANALYSIS

Question 1

- a) **Describe** the meaning of the Σ symbol. (2 marks)
- b) The following data are a random sample of exam scores:
2, 4, 5, 6, 8
Calculate the mean, median, and mode. **Show** your working. (12 marks)
- c) **Suggest why** the median is **more** appropriate than the mean to represent sets with extreme outliers. **Justify** your answer. (6 marks)

Question 2

- a) **Outline** the survey research method. (4 marks)
- b) **Compare TWO** advantages **and TWO** disadvantages of closed-ended questions. (10 marks)
- c) Referring to your response to Question 2b, **suggest** whether closed-ended or open-ended questions are appropriate for collecting quantitative data. **Justify** your answer. (6 marks)

Question 3

- a) **Draw** a pie-chart showing three classes with the following proportions: 2:3:5 (2 marks)
- b) **Compare TWO** characteristics data quality requirements **with** system performance requirements. (12 marks)
- c) Referring to your response to Question 3b, **suggest** which type of requirement is the **most** important with respect to a marketing system. **Justify** your answer. (6 marks)

Question 4

- a) **State THREE** reasons why it is useful to measure the dispersion of a variable. (6 marks)
- b) **Illustrate** the difference between standard deviation **and** variance. Use formula and examples to support your answer. (8 marks)
- c) Referring to your response to Question 4b, **suggest** which is the **most** appropriate for communicating dispersion to someone unfamiliar with statistics. **Justify** your answer. (6 marks)

Question 5

- a) **Explain** what is meant by the term 'normal distribution'. (4 marks)
- b) **Compare TWO** characteristics of 'normal' **and** non-normal data. (12 marks)
- c) Referring to your response to Question 5b, **recommend** the **most** appropriate statistical test to use when compare two groups with normal data. **Justify** your answer. (4 marks)