



Professional Qualification in
COMPUTING AND INFORMATION SYSTEMS
Level 4 Diploma

UNIT 3 – INFORMATION SYSTEMS ANALYSIS AND DESIGN

Question 1

Discuss the benefits and limitations of using the Waterfall approach to systems development. (10 marks)

Question 2

Discuss the advantages of the iterative over the non-iterative approach to change management. (10 marks)

Question 3

Describe each of the stages of the systems development life cycle model below:

- (a) Analysis. (5 marks)
- (b) Planning. (5 marks)

Question 4

- (a) Describe ONE main function of a systems analyst in an information systems project. (5 marks)
- (b) Explain how a systems analyst would communicate with others in an organisation. (5 marks)

Question 5

Describe how to conduct each of the following requirements gathering methods:

- (a) Interviews. (5 marks)
- (b) Observations. (5 marks)

Question 6

Describe examples of the following requirement categories of a project:

- (a) Functional. (5 marks)
- (b) Non-functional. (5 marks)

Question 7

Draw a UML use-case diagram to describe the purchase of an airline ticket. (10 marks)

Question 8

Discuss the application of use-cases in:

- (a) Object-oriented systems analysis. (5 marks)
- (b) Data processing design. (5 marks)

Question 9

- (a) Illustrate the use of systems data flow diagrams in information systems design. (5 marks)
- (b) Illustrate the use of UML sequence diagrams in information systems design. (5 marks)

Question 10

Describe **ONE** strength and **ONE** weakness of each of the following project management methodologies:

- (a) Prince2. (5 marks)
- (b) SCRUM. (5 marks)