



**Professional Qualification in**  
**COMPUTING AND INFORMATION SYSTEMS**  
**Level 4 Diploma**

**UNIT 3 – INFORMATION SYSTEMS ANALYSIS AND DESIGN**

Question 1

Describe **ONE** advantage and ONE disadvantage of the iterative software development life cycle (SDLC) model. (10 marks)

Question 2

State ONE outcome of each of the following stages of SLDC:

- (a) Planning. (2 marks)
- (b) Design. (2 marks)
- (c) Programming. (2 marks)
- (d) Testing. (2 marks)
- (e) Deployment. (2 marks)

Question 3

- (a) Describe **ONE** role of a systems analyst. (5 marks)
- (b) With reference to your answer to Question 3a, describe the skills needed to undertake the role identified. (5 marks)

Question 4

- (a) Describe **ONE** reason for a systems analyst and a programmer to work together on a project. (5 marks)
- (b) Describe **ONE** role of helpdesk support staff in a Management Information System. (5 marks)

Question 5

- (a) Describe an example of **ONE** business requirement an information system may address. (5 marks)
- (b) Describe **ONE** project requirement that needs to be defined prior to commencement. (5 marks)

#### Question 6

Draw a use-case diagram to describe a customer making a purchase from an online shop. (10 marks)

#### Question 7

- (a) Describe **ONE** advantage of using a data flow diagram to represent systems processes. (5 marks)
- (b) Describe **ONE** difference between a logical and a physical data flow diagram. (5 marks)

#### Question 8

Explain the purpose each of the following components of a UML sequence diagram:

- (a) Synchronous message. (5 marks)
- (b) Lifeline. (5 marks)

#### Question 9

- (a) Explain **ONE** reason why a project should have clear goals. (5 marks)
- (b) Describe **ONE** step in identifying the goals of a project. (5 marks)

#### Question 10

Explain how each of the following project management tools could support the achievement of the goals:

- (a) A PERT chart. (5 marks)
- (b) A Mind Map. (5 marks)