

IMIS DIPLOMA QUALIFICATIONS

**Information Systems Development  
(D6)**

Monday 9<sup>th</sup> June 2014 14:00hrs – 17:00hrs

**DURATION: 3 HOURS**

**Candidates should answer ALL the questions in Part A and THREE of the five questions in Part B. Part A carries 40% of the marks available and Part B carries 60%. Candidates should allocate their time accordingly.**

***No reference material of any kind may be taken into the examination.***

**[Turn over]**

**PART A. Answer ALL questions in this section.**

**Question A1**

Identify five general skills that members of a systems development team should possess.

**(5 marks)**

**Question A2**

What are the four major components of a dataflow diagram?

**(5 marks)**

**Question A3**

What is meant by the term “levelled” as applied to a set of dataflow diagrams?

**(5 marks)**

**Question A4**

How should a systems analyst begin to develop an entity relationship model once a complete set of dataflow diagrams has been developed?

**(5 marks)**

**Question A5**

How is the object approach different from the data and process approaches to systems development?

**(5 marks)**

**Question A6**

What are three fundamental parts of most user interfaces?

**(5 marks)**

**Question A7**

How could a use case scenario be used in the design of a user interface?

**(5 marks)**

**Question A8**

What does “prototyping” mean in the context of systems development?

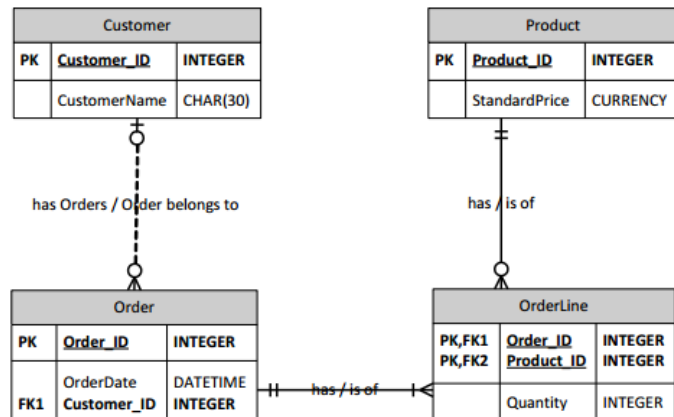
**(5 marks)**

**PART B. Answer any THREE of the following FIVE questions.**

**Question B9**

The following questions relate to the development of entity relationship models for database design.

- a) Draw entity relationship diagrams to represent each of the following situations:
- i. Each vehicle is owned by one person (4 marks)
  - ii. Each athlete can take part in only one event (4 marks)
  - iii. Each “Delivery” is a single product dispatched to just one customer (4 marks)
  - iv. Each reservation in a hotel is for just one room and will be made for just one guest (4 marks)
- b) Identify four business rules from the entity relationship model below.



(4 marks)

(Total 20 marks)

**Question B10**

Describe the main responsibilities for each of the following members of a development team

- a) Business analyst (4 marks)
  - b) Systems analyst (4 marks)
  - c) Infrastructure analyst (4 marks)
  - d) Change management analyst (4 marks)
  - e) Project manager (4 marks)
- (Total 20 marks)**

**Question B11**

The following questions relate to the requirements determination stage in systems development.

- a) What is the value of producing a requirements definition and having the project sponsor and key users review and approve it? (4 marks)
  - b) Explain what is meant by “functional requirement”. You should identify two types of functional requirement and give two examples of each. (8 marks) (8 marks)
  - c) Explain what is meant by “non-functional requirement”. You should identify two types of non-functional requirements and give two examples of each. (8 marks)
- (Total 20 marks)**

**Question B12**

This question relates to the strategies that are available to obtain a new system.

- a) Describe the four primary functional components of a software application. (5 marks)

- b) Explain what circumstances would favour each of the following ways of obtaining a system:
- i. Custom development (5 marks)
  - ii. Purchasing a packaged system (5 marks)
  - iii. Outsourcing (5 marks)
- (Total 20 marks)**

**Question B13**

The following questions relate to requirements gathering techniques.

- a) Discuss the five major steps involved in setting up and conducting interviews to elicit requirements. (5 marks)
- b) Discuss the reasons why questionnaire design is so difficult. (5 marks)
- c) What is meant by “document analysis”? Why is the technique so important to gaining insight into the way an organisation works? (5 marks)
- d) What precautions could you take to make sure that findings based on observation are reliable? (5 marks)
- (Total 20 marks)**

**END OF EXAMINATION**