BCS Higher Education Qualification

Diploma

May 2021

EXAMINERS' REPORT

Systems Analysis and Design

(delete all italics for final public version)

General comments[1]
Some candidates were unable to apply common techniques for process and data modelling to the case study. There were however some excellent submissions. No questions were particularly popular or unpopular.

Question number: 1
Syllabus area: Business Activity Modelling – Dataflow diagrams, Activity Diagrams
Total marks allocated: 25
Examiners' Guidance Notes
58% of candidates attempted this question.   Many candidates presented very good answers. The main reasons for losing marks were that some candidates did not present a context diagram or did not understand the purpose of a context diagram. Some candidates gave process names to dataflows. Some candidates were unable to distinguish business activity diagrams from DFDs.
Question number: 2
Syllabus area: Logical data design – Use Case Diagrams and Use Case Elaboration
Total marks allocated: 25
Examiners' Guidance Notes
44% of candidates attempted this question.   Many answers for Part A were good but many candidates appeared confused about Part B and did not present an elaboration of a Use Case. The discussion in Part C was generally good.

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[1] *Insert moderator comments on the examination*

Question number: 3
Syllabus area: Logical data design – Prototyping, Evolutionary and Throwaway Approaches
Total marks allocated: 25
Examiners' Guidance Notes
35% of candidates attempted this question. Many answers were well presented and clear. The main reasons for losing marks were that some answers were very short and lacking in illustrative examples.

Question number: 4
Syllabus area: Logical data design – Normalisation, Entity relationship modelling
Total marks allocated: 25
Examiners' Guidance Notes
93% of candidates attempted this question. Many answers for part (a) were reasonable and candidates were able to practically demonstrate the normalisation process. Some candidates however did not provide proper explanations and did not show primary and foreign keys. Part (b) was answered reasonably well. Some candidates however produced ERDs which were inconsistent with the normalised relations/tables.

Question number: 5
Syllabus area: Object oriented design – OO concepts, Static modelling: UML class diagrams
Total marks allocated: 25
Examiners' Guidance Notes
This question was attempted by appr.88% of candidates. Part (a) was answered reasonably well. Some candidates however were unable to give proper and correct examples of relationships between classes (i.e. examples based on the case study). A number of candidates also had problems with definitions/explanations of relationships between classes (association and aggregation in particular). Also a small number of candidates did not draw relevant fragments of class diagrams. In general 'association' and 'aggregation' caused more problems than 'generalisation'. Part (b) caused some problems i.e. two approaches to mapping were not sufficiently explained.

Question number: 6
Syllabus area: Object oriented design – Dynamic modelling (UML statecharts, UML interaction diagrams).
Total marks allocated: 25
Examiners' Guidance Notes
This question was attempted by appr.62% of candidates.
Answers for part a) were sufficient.
Part (b). More candidates than usual answered this part reasonably well. Some answers included state machines with incorrect states.
Part (c): This part was answered sufficiently well.