

BCS Higher Education Qualification

Diploma

November 2020

EXAMINERS' REPORT

Systems Analysis and Design

General comments¹

This was an exam in which some candidates struggled with the practical application of design techniques such as process modelling, Use Case Analysis, normalisation, data modelling techniques (e.g. ERD), UML techniques, etc. To obtain high marks in an exam like this candidates need to practice applying these techniques to a range of case studies

Question number: 1

Syllabus area: Using requirements documentation as a basis for design activities

Total marks allocated: 25

Examiners' Guidance Notes

This was a popular question being attempted by 80% of candidates. The average mark obtained was 57%. Candidates who received lower marks were usually confused about the difference between DFDs, Use Case Diagrams and Activity Diagrams.

Question number: 2

Syllabus area: Detailed definition of processes

Total marks allocated: 25

Examiners' Guidance Notes

This was a fairly popular question being attempted by 48% of candidates. The average mark obtained was 64%. Candidates who achieved higher marks provided detailed descriptions of Use Cases that would be useful to Use Interface Designers or the designers of test plans. Lower marks were awarded where the descriptions were less formal and vague.

Question number: 3

Syllabus area: System design and Solution Delivery

Total marks allocated: 25

Examiners' Guidance Notes

This was a fairly popular question being attempted by 48% of candidates. The average mark obtained was 64%. Quite a few candidates obtained very high marks on this question with the average being lowered by candidates who attempted the question without a clear idea of the philosophy behind agile methods. This seemed to be a question where candidates obtained either a high mark or low mark with very few falling in-between.

Question number: 4

Syllabus area: Logical data design

Total marks allocated: 17?

Examiners' Guidance Notes

Nearly 90% of candidates attempted this question and the majority of them achieved a pass mark for their answers. However the results were below expectations comparing with the results achieved before.

Many answers for part (a) were reasonable and the majority of 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 sufficiently well. Some candidates had problems with relationships (with cardinalities of relationships in particular). Some candidates produced ERDs which were inconsistent with the normalised relations/tables.

Question number: 5

Syllabus area: Object oriented design – static modelling: UML class diagrams

Total marks allocated: 7?

Examiners' Guidance Notes

This question was attempted by appr. 41% of candidates and 57% of them achieved a pass mark.

Part (a). Many candidates identified similarities and differences, so in general this part was answered reasonably well.

Part (b) was answered reasonably well. Some candidates were unable to give proper and correct examples of relationships between classes. 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' caused more problems than 'generalisation'.

Question number: 6

Syllabus area: Object oriented design – dynamic modelling: UML interaction diagrams, UML statecharts/ state machines

Total marks allocated: 9?

Examiners' Guidance Notes

This question was attempted by appr. 53% of candidates and only 11% of them achieved a pass mark – so the results are really weak. Some answers were adequate, but many answers were very weak.

In general answers for part a) were adequate.

Most candidates who answered part (b) identified the right actor, but many candidates did not manage to identify the right classes/objects and messages. In general answers were however adequate.

Part (c): Only a small number of candidates produced reasonable state charts/state machines. Many candidates produced 'activity diagrams' instead.