BCS Higher Education Qualification

Diploma

April 2019

EXAMINERS' REPORT

Database Systems

Question number: A1
Total marks allocated: 25
Examiners' Guidance Notes
This question was quite popular with two thirds of candidates attempting it. Over half of all attempts achieved pass level marks. A good spread of marks was present with a small number of attempts gaining full marks. Parts a) – c) were covered quite satisfactorily with no major issues. Part d) caused a few problems with many attempts failing to produce suitable and in many cases correct CREATE VIEW statements in SQL. This part of the question showed significant weakness in SQL. Many candidates who did manage to create example views often failed to give examples and/or an explanation of how these views were created. Using SQL to create the view was sufficient to explain how the view achieved the particular property.

Question number: A2
Total marks allocated: 25
Examiners' Guidance Notes
This question was not popular with around one quarter of the candidates attempting it. The success rate on this question was a little disappointing but a good spread of marks was present with a small number of attempts gaining full marks. There was concern that general bookwork knowledge on the general principles of ACID properties of transactions in part b) was well answered, but was not adequately applied to the given scenario. A number of answers produced vague and confusing accounts showing only superficial knowledge of locking and serialisation of interleaved transactions. Many candidates stated various causes of the concurrency problem (including dirty read and lost update) without a satisfactory explanation of the problem.

Question number: A3
Total marks allocated: 25
Examiners' Guidance Notes
The majority of candidates attempted this question. A very high proportion of the attempts achieved pass level marks. The answers were generally good. Many candidates, however, did not distinguish between a conceptual design (for example, ER or UML diagram) and a relational design (set of linked tables), so tended to show foreign keys in the ER diagram. Most candidates also struggled to represent a many-to-many relationship that has its own attribute (for example., time spent by members of staff in meetings).

Question number: B4
Total marks allocated: 25
Examiners' Guidance Notes
This question was attempted by over half of the candidates. Around three quarters of the attempts achieved pass level marks. There was a highly diverse range of performance in the attempts at this question Answers to part a of the question were generally better than those for part b

Question number: B5
Total marks allocated: 25
Examiners' Guidance Notes
This question was attempted by a large majority of the candidates. There was some disparity in the quality of answers for the whole question. This led to a wide variation in the marks obtained by the attempts. However, most attempts were very satisfactory Some of the queries were reasonably simple and the majority of candidates answered them correctly, (for example a.iii) whereas others were challenging such as vii.

Question number: B6
Total marks allocated: 25
Examiners' Guidance Notes
The majority of candidates attempted this question. Over 80% of the attempts achieved pass level marks. Although almost all candidates are able to list the three types of anomalies, many struggled to describe a sensible example related to the given table. Many candidates struggled to identify the partial dependencies in the given table. This had a direct effect on the proposed solution for normalisation. Candidates should also practice normalising tables one step at a time: from 1st to 2nd to 3rd normal form, as opposed to creating a set of fully normalised tables in just one step (which is also a required, different, skill).