BCS Higher Education Qualification

Diploma

April 2025

EXAMINERS' REPORT

Database Systems

Questions Report:

A1	
	Almost all learners attempted this and two thirds of those achieved a pass grade on the question. The question tested basic knowledge of database concepts and answers to part a) were generally good (there were weaknesses in explaining recursive relationships and partial dependencies) – however many students lost marks by failing to provide examples. Part b) was answered well, but the third sub question was omitted by many. Part c) saw reasonable answers, but many lacked details.
A2	
	Again, this was answered by almost all learners and answers were generally good. Marks were often lost in part b) by omitting to provide information on keys (referential integrity constraints) and not null as a typical data integrity constrain. Part c) was not attempted by all students. For part a) there was generally good understanding of what 2NF and 3NF are, but table structures for 2NF were often doing more than needed and converted the 1NF to 3NF in one go.
A3	
	This was answered by a third of learners, of whom half passed the question. The key issue with gaining marks on this question was the lack of answers provided – very many learners did only answer a small number of sub questions. Answers provided were generally as expected and addressed the ask reasonably well. When asked to explain the purpose of a query, some answers described the query line by line rather than explaining the purpose; in the modelling task in part c) answers were very good, but the recursive relationship of workers and supervisors was not always captured.
B4	
	A third of candidates answered and a third of those passed the question. While there were some excellent answers, others seemed to invent new concepts on the go. The latter showed a lack of understanding shown for the

	various modern database technologies. Some answers for key-value database discussed concepts such as primary keys and other relation aspects; some answers for graph databases discussed mathematical graphs (i.e. representation of data, rather than nodes-edges) and for object-oriented databases there were few answers explaining when they are useful.
B5	
	Answered by two thirds of candidates, with just under half of those achieving pass grades. A recurring problem of sub questions not answered reduced opportunity to pass. Part a) was generally addressed well, but some answers lacked detail especially on authorisation (such as RBAC or ACLs). Part b) asked for SQL Grant statements; there were several answers that just restated the requirements in plain English thus not answering the question. Part d) asked for an audit plan – answers often explored why having a plan is good rather than suggesting one; others only focussed on one step in the overall plan by exploring all the ways in which one can monitor compliance.
B6	
	Answered by two thirds of candidates, with very low overall pass rate for the question. Again, the recurring problem of sub questions not answered was a great hindrance to gain grades. Many learners lost grades in part a) by omitting the required example; some only described a query rather than a transaction. The question on ACID was generally well answered with some minor misnaming of concepts and misunderstanding of their purpose. Part c) had some good answers, but many learners did not address it, and some spoke about concurrency control but unrelated to the example. Part d) saw many students not answer the question – which asked for what a data management plan ensures (business continuity/ minimise downtime, protect data integrity) not what aspects one would include (backups, geo-replication).