# BCS Higher Education Qualification

## Diploma

## October 2025

## EXAMINERS' REPORT

## Systems Analysis and Design

**General Comments:**

There were no significant issues with this exam and no questions that proved especially unpopular. While this report highlights the types of mistakes made in responses to each question, the overall standard of answers was higher than these notes might imply.

**Questions Report:**

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| A1 | Part a) This question concerned the identification of Use Cases. It was popular and generally well-answered. Common mistakes included:<br><br>• Listing processes or data stores instead of use cases<br>• Giving overly detailed steps instead of meaningful interactions<br>• Missing or irrelevant actors<br><br>Part b) Expanding a Use Case. Common mistakes included:<br><br>• Missing preconditions and postconditions<br>• Writing vague flows<br>• Confusing alternate flows with exceptions<br>• Introducing interface design instead of process logic<br><br>Part c) Concerned DFD Elements. Common mistakes included:<br><br>• Confusing actors with processes<br>• Confusing dataflows with control flow<br>• Incorrect or missing data stores<br><br>Part d) Concerned Role of Use Cases and DFDs. Common mistakes included:<br><br>• Not explaining differences clearly<br>• Confusing behavioural and data-flow perspectives<br>• Not linking to the case study |
| A2 | Part a) Concerns SDLC Stages. Common mistakes included: |

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| | • Giving generic definitions without applying to the scenario<br>• Missing stages or merging them incorrectly<br>• Not discussing testing or deployment<br><br>Part b) – Throwaway vs Evolutionary Prototyping. Common mistakes included:<br><br>• Incorrectly stating throwaway prototypes evolve into final systems<br>• Not applying examples to the scenario<br>• Not explaining when each is suitable |
| A3 | Part a) – Fact Gathering. Common mistakes included:<br><br>• Not linking methods to the scenario<br>• Repeating the same stakeholders for each method<br>• Lack of detail on questions or expected outputs<br><br>Part b) – Functional vs Quality Requirements. Common mistakes included:<br><br>• Mixing the two requirement types<br>• Only giving definitions without examples<br>• Examples unrelated to the scenario |
| B4 | Part a) – Normalisation. Common mistakes included:<br><br>• Skipping steps from 1NF to 3NF<br>• Incorrect identification of keys and dependencies<br><br>Part b) – ERD. Common mistakes included:<br><br>• Incorrect cardinalities<br>• Missing associative entities<br>• Not matching relations created in Part a) |
| B5 | Part a) – OO Concepts. Common mistakes included:<br><br>• Confusing aggregation and composition<br>• No class diagram fragments<br>• Incorrect application to scenario objects<br><br>Part b) – ORM Mapping. Common mistakes included:<br><br>• Describing only one mapping approach<br>• Not explaining pros/cons<br>• Confusing subclass mapping techniques |
| B6 | Part a) – State Machines. Common mistakes included:<br><br>• Describing sequence diagrams instead<br>• Not mentioning events or transitions |

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| | • Very brief or incomplete explanations<br><br>Part b) – Offer State Machine. Common mistakes included:<br><br>• Missing initial/final states<br>• Incorrect transitions<br>• Inconsistent naming of events<br><br>Part c) – Sequence Diagram. Common mistakes included:<br><br>• Missing lifelines or actors<br>• Incorrect message ordering<br>• No return messages<br>• Missing loops for multiple items |