BCS Higher Education Qualification

Professional Graduate Diploma

May 2021

EXAMINERS' REPORT

Software Engineering 2

General comments

Question number: A1
Syllabus area: Software evolution. Lehman's laws of software evolution.
Total marks allocated: 25
Examiners' Guidance Notes
This question was attempted by 75% of candidates, and 44% of them achieved a pass mark.   Part a) Only a small number of candidates answered it reasonably well i.e. they stated four laws, provided a brief explanation of each and explained the implication of each law for software life cycle management.   Part b) This part caused many problems. Many factors discussed are not actually technical. The factors were not divided into 2 groups: factors to assess the environment, factors to assess the legacy system itself.

Question number: A2
Syllabus area: Advanced use of UML including OCL, assertions, pre- and post- conditions
Total marks allocated: 25
Examiners' Guidance Notes
This question was attempted by 33% of candidates but only 25% of them achieved a pass mark. In general, the answers given were disappointing except one which was exceptionally good.   Part a) This part of the question was essentially book work and required candidates to define what assertions are and why they are useful. The majority of answers failed to do this.   Part b) Only one answer was good i.e., pre- and post- conditions were properly specified for each operation as well as an invariant for the counter. Other answers failed to address the question set. Success answering this part of the question was dependent on the basic knowledge required by part a).

Question number: B3
Syllabus area: Open-Source Software Engineering
Total marks allocated: 25
Examiners' Guidance Notes
This question was attempted by almost 67% of candidates and 62% of them achieved a pass mark. There seemed to be a general lack of knowledge and awareness of open source as a software engineering discipline, and how it is supported existing development tools. In Part a) many students had some knowledge of open-source software, but little or no knowledge of the actual open-source lifecycle and engineering process. In Part b) responses to this section were either missing or poorly attempted, with some candidates demonstrating only a basic knowledge of some common open-source software tools.

Question number: B4
Syllabus area: Software Requirements Engineering
Total marks allocated: 25
Examiners' Guidance Notes
This question was attempted by 75% of candidates and nearly 89% of them achieved a pass mark. Part a) some candidates demonstrated a good awareness of the requirement engineering lifecycle and some good knowledge evidenced of requirements elicitation. However, only cursory knowledge demonstrated of the requirements analysis, validation, and management phases, Part b) Some particularly good answers evidenced, showing awareness of agile methods and current trends in modern software engineering.

Question number: B5
Syllabus area: Software Architecture, Software as a service
Total marks allocated: 25
Examiners' Guidance Notes
This question was attempted by 58% of candidates, and the pass rate achieved was 57%. Part a). In general, most candidates demonstrated reasonable knowledge of the client-server architectural style, but limited awareness of hierarchical layering as a concept and as an architectural style. Part b). In this section only a small number of candidates understood the concept of service-oriented architecture, and even fewer the term microservices.