BCS Higher Education Qualification

Profession Graduate Diploma

September 2019

EXAMINERS' REPORT

Software Engineering 2

General comments[1]
The pass rate of 35% was lower than most recent sittings. The following issues continue to be significant in some centres, and may offer a partial explanation of student performance: 1. Coverage of the syllabus. This issue is borne out in candidate responses to questions around topics such as the OSSE process models and software architectural styles. With the exception of OSSE, many of these topics have good coverage in the recommended textbooks and this needs to be reflected in the delivery at some centres. 2. Examination techniques. There continues to be instances of candidates answering parts of questions without regard for their indicative weightings, resulting in too detailed an answer for one component part that cannot compensate for the marks lost by incomplete or "shallow" coverage of the second and subsequent components of questions. Further, candidates need to read and understand the whole question, not just simply identify the first one or two keywords and formulate answers that disregard the context of their use. It is good to see that there were fewer incidences of candidates answering more than the required number of questions. 3. Presentation. It is important that candidate responses to questions are legible, well-structured and formatted.

Question number: A1
Syllabus area:
Total marks allocated: 25
Examiners' Guidance Notes
This question was the most popular of all questions, attempted by more than 90% of candidates with the 2nd highest pass rate of 45%. Part a). General discussion of prototyping was reasonable. Many candidates identified two broad approaches to prototyping: throw away and evolutionary prototyping, but only some provided sufficient explanation of both approaches. Only a small number of candidates properly explained their approach to prototyping for the given scenario. Part b). Many candidates managed to explain both: evolutionary development and agile methods, but their answers were not clearly structured e.g. no clear discussion of similarities and differences. Some candidates confused evolutionary development with software evolution and maintenance (e.g. perfective maintenance, software reengineering, etc.).

Question number: A2
Syllabus area:
Total marks allocated: 25
Examiners' Guidance Notes
This question was nearly as popular as Question 1. It was attempted by 90% of candidates with the highest pass rate of 51%. Part a). Many candidates provided sufficient discussion of team selection, but team structures and control mechanisms were not sufficiently discussed. Some candidates discussed completely irrelevant issues e.g. agile methods. Part b). Most candidates agreed with the view that managing software projects does not differ from managing projects in different areas. Most candidates identified various 'generic' project stages (present in software and other projects) and many also identified 'generic' managerial tasks. Very few candidates discussed the complex and often 'multi-faceted' nature of modern project artefacts. A few candidates disagreed (or partly disagreed) with the above view and provided adequate arguments.

Question number: A3
Syllabus area:
Total marks allocated: 25
Examiners' Guidance Notes
This question was the third most popular of all questions, attempted by more than 50% of candidates with the 4th highest pass rate of 30%. Part a) (i). Most candidates sufficiently explained LOC and Coupling and Cohesion, but Function Points and Cyclomatic Complexity were only sufficiently explained by a few candidates. Part a) (ii). Many candidates provided reasonable answers, but some answers were wrong and irrelevant. Part b). Only a small number of candidates demonstrated proper understanding of this question.

Question number: B4
Syllabus area:
Total marks allocated: 25
Examiners' Guidance Notes
This question was the least popular of all questions, attempted by 26% of candidates with the 3rd highest pass rate of 33%. It is evident from the candidates' overall responses, that very limited knowledge or awareness exist regarding the concept of software architecture, and the architectural styles used today. As this is a fundamental aspect of software engineering, it is important that providers ensure the delivery and availability of supporting material for this topic, including directing candidates to the recommended text.

Question number: B5
Syllabus area:
Total marks allocated: 25
Examiners' Guidance Notes
This question was one of least popular of all questions, attempted by 46% of candidates yielding the lowest pass rate of only 24%. Many candidates have some awareness of open source, but appear to have very little knowledge of software engineering practice with open source, even as a process model (OSSE). This lack of knowledge was further compounded by very little awareness of where such open source tools might be used in the development process. It is important that candidates are aware of the progression of open source from being that of the "hobbyist" to that of becoming a professional and disciplined engineering practice.