

BCS Higher Education Qualification

Profession Graduate Diploma

November 2020

EXAMINERS' REPORT

Programming Paradigms

General comments

The results are in line with previous years.

There is a continuing pattern where a number of candidates are not engaging with the material in Part B of the paper. Part B covers the topics of Functional Programming, Logic Programming and Distributed and Concurrent Programming. For this course, we encourage candidates to explore more than the Imperative style or programming so that they experience and learn about different paradigms.

Question number: Q1

Syllabus area: Object Orientation, 3.1

Total marks allocated: 25

Examiners' Guidance Notes

This question asked about the issue of abstraction, the use of abstract classes and concepts in object-oriented programming. There were some good answers, but this material was not answered as well as similar questions in previous years. Some confused the more general idea of abstraction with the specific idea of abstract classes. Whilst they are related, we would have liked to see a distinction. Some answers about Inheritance, Overriding and Polymorphism covered some basic issues but would be better if they had expanded the discussion to include more details.

Question number: Q2

Syllabus area: Programming Environments, 2.1 to 2.6

Total marks allocated: 25

Examiners' Guidance Notes

This question about compilation and interpretation, as well as the use of IDEs. Overall, this was answered well by a number of candidates. Some answers were brief and with more detail would show a better understanding. Some answers about compilers and interpreters were quite general. Better answers showed an understanding of issues such as lexical analysis, syntax analysis and code generation.

Question number: Q3

Syllabus area: Nature of Programming Languages, 1.1 to 1.4

Total marks allocated: 25

Examiners' Guidance Notes

This question asked about procedural, declarative and object-oriented programming, as well as scripting languages. There were some good answers, but a number of answers that did not provide much detail. Answers about scripting languages sometimes focused on one, but the question asked for two types to be discussed.
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Question number: B4

Syllabus area: Logic Programming, 5.1 to 5.4

Total marks allocated: 25

Examiners' Guidance Notes

This question presented a sample Prolog database and asked questions about how that database would be used. Whilst there were some good answers, other candidates did not demonstrate a knowledge of how to use different aspects of logic programming, including ground queries, non-ground queries, rules, the use of facts and the cut operator. This is an area that future candidates should prepare for.
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Question number: B5

Syllabus area: Related Issues, 6.1

Total marks allocated: 25

Examiners' Guidance Notes

This question asked about the topic of concurrency in software. There were some reasonable answers, but few candidates attempted the question. Some answers were brief and didn't demonstrate a detailed understanding of the topic. This is an area that future candidates should prepare for.
