BCS Higher Education Qualification

Profession Graduate Diploma

7 July 2020

EXAMINERS' REPORT

Network Information Systems

General comments
There were a good range of answers despite the low numbers taking the paper this year, and some candidates demonstrated excellent knowledge in the subject area. Question B5 was the least popular choice of question, but those who chose to answer often did so well, and the mean mark for this question was almost the same as that for the most popular, question A1. In a few cases candidates wrote excellent answers to some parts of questions but left large sections blank, attracting no marks on those sections. In terms of general question selection, candidates should consider that getting average or good answers to all parts of a question is likely to be a better strategy than an excellent answer on half a question, and leaving half the question unanswered. A recurring theme in questions was also that book work answers often showed excellent preparation, but the later parts of questions that ask for knowledge to be applied were more variable. This is as it should be – those later sections are designed to stretch candidates and test for deeper understanding – but candidates preparing for the exams may wish to take note of the answer points to these later question parts, not to learn information by rote, but to see how the answers are seeking applied understanding of the concepts.

Question number: A1
A1. Syllabus area: Section 1 - ADVANTAGES AN DISADVANTAGES OF DISTRIBUTED PROCESSING SYSTEMS
Total marks allocated: 25
Examiners' Guidance Notes
This question was popular and many candidates were able to describe the concepts competently and fully. Some answers were brief and said little beyond what is common knowledge. This was perhaps more noticeable in part b, where many candidates had some knowledge of load balancing but were not able to explain the concept in practice and in the context of the question. Also some answers did not provide examples where they were requested.

Question number: A2
Syllabus area: SECTION 8 - MESSAGING AND INFORMATION SERVICES
Total marks allocated: 25
Examiners' Guidance Notes
Many good answers to this question for parts a and b. However the answers for c tended to be at a more superficial level. Many candidates suggested the primary difference between these protocols was that mail is downloaded from the server in POP and retained on the server in IMAP. Although largely true in practice, that does not fully understand the difference between the protocols with IMAP being designed for server held mail, allowing for user organisation of the mailbox and access and synchronisation across multiple devices concurrently.

Question number: B3
Syllabus area: SECTION 2 - SECURITY
Total marks allocated: 25
Examiners' Guidance Notes
This was a popular question and it attracted many good answers. Earlier sections required knowledge of the fundamentals of cryptography, including security of hashing algorithms, and candidates who selected this question generally had good knowledge on these subjects, although some skipped discussion of pre-image and collision resistance. The last part of the question asked candidates to apply their understanding somewhat, and was of more variable quality than earlier sections, but there were still good answers here from some candidates, demonstrating a good level of understanding. The subject is in a clear and important syllabus area and answers in general demonstrated good preparation for the exam.

Question number: B4
Syllabus area: SECTION 7 - WIDE AREA NETWORKS
Total marks allocated: 25
Examiners' Guidance Notes
Another popular question and answers in general attracted good marks. Although a few answers were confused on the core concepts, the large majority of candidates answering this question demonstrated good preparation in answering the earlier bookwork sections. Again the last section asks candidates to apply their understanding, and there were some good answers here, but none that contained everything in the answer points above. Nevertheless the general standard on this question was high.

Question number: B5
Syllabus area: SECTION: SECTION 3 - OPERATIONAL NETWORK/NIS MANAGEMENT ISSUES AND SECTION 6 - LOCAL AREA NETWORKS
Total marks allocated: 25
Examiners' Guidance Notes
Candidates are pointed to the discussion of diagrams and graphs in the answer points above, particularly for section a. Diagrams are an excellent way to quickly express knowledge, and many candidates did choose to use diagrams here which was to their benefit. A very few answers also included the suggested throughput graph which formed part of excellent answers. Although many candidates did understand the slow start mechanism very well and provided good explanations, very few were able to critique the core assumption (the problem part of the question). Yet a few did point out that the assumption that packet loss indicates a congestion event may not be true in lossy networks such as WiFi networks. Likewise, fewer answers demonstrated understanding of the issue in part d.