BCS Higher Education Qualification

Profession Graduate Diploma

22 December

EXAMINERS' REPORT

Network Information Systems

General comments

Section A
There were a good range of answers once again. Some were excellent, and it was good to see nearly all candidates had prepared well for the exam.

Once again it is important that candidates pay attention to the marks when deciding how to allocate their time and the depth they wish to go into ant one question.

Although some candidates again left parts of questions blank, this year the blank sections were largely for the later parts of the question which are generally intended to stretch candidates more than earlier parts, so this was as expected.

Section B
This year (November 2020) the answers of the students were more or less equally good compared to any other year. The biggest difference seems to be the number of students attempting the exam – it is considerably lower compared to other years.
As far as the technical difficulty is concerned most questions were answered properly with very few questions proving difficult to understand or not having read the appropriate learning materials. Question 3 Part B has been the least popular and Q4 and Q5 Part B proving the equally the most popular. Very few were able to answer the practical sub-question in Q5 properly (very few even attempting it). Week part seems to be inter-process communication material and strong point is messaging and information services. Local network material, although essential, in general is less well understood compared to messaging and information services.

Question number: A1

A1.Syllabus area: Section 2 - SECURITY

This question was not popular but generally answered well by candidates who chose it. Very few candidates considered the secure copy and tunnelling aspects of secure shell, but otherwise part a was well understood by all. Part b tested that understanding somewhat, and this may be why many candidates did not choose this question. In particular, few considered the use of VPN in routers to create transparent VPN over an insecure internet.

Recommendations in part c were generally appropriate and suitably argued.

Question number: A2
Syllabus area: SECTION 7 - WIDE AREA NETWORKS
This question was very popular and nearly all candidates produced good or excellent answers for part a, showing good preparation. The only thing to note with part a is it is worth under one third of the marks for the question, but many candidates provided very full and excellent descriptions of the OSI 7 layer model that went into far more detail than the question required. The question was worth 7 marks – just one mark for the description of each layer. Candidates who named each layer and described its function in a paragraph or at the most two for each layer got all the marks. Much as I would like to have given more marks for some answers, I could not do so. Part b was also generally well answered, showing good preparation. Many answers differed from the answer points above in terms of examples, but examples chosen by candidates were generally correct and earned the marks. Part c was asking about SSL/TLS, and looking for some application of the book knowledge. A pleasing number of candidates understood what was being understood and gained some marks even if they did not fully answer the question

Question number: B3
B3.Syllabus area: SECTION 1 - ADVANTAGES AN DISADVANTAGES OF DISTRIBUTED PROCESSING SYSTEMS
B3 - The question proved difficult – but it is essential in the understanding the work of the modern computers and their interaction. **(B3_a)** This usually easy to answer question with the emphasis on Hardware, Operating Systems, Network and Programming languages heterogeneity explained. No major problems here and well-defined answers on general knowledge base, but sometimes general knowledge is not enough. **(B3_b)** This question requires specialised knowledge, very few attempts for answering it and needs more in-depth explanation. **(B3_c)** This is the question with the least number of points scored, least number of attempts and requires in-depth understanding of the work of remote code execution and inter-process communication.

Question number: B4
B4.Syllabus area: SECTION 8 - MESSAGING AND INFORMATION SERVICES
B4 - This is the question which was answered well and it tests the knowledge required for building web services and in this respect probably most useful to the students in their prospective future work. **(B4_a)** Easy question and all answers were up to the point with well understood purpose of the defined technologies. **(B4_b)** Although an example was given many struggled with this question. The answers should lack of practice and were not succinct and to the point, but generally showed good understanding. **(B4_c)** The answer to this question in the opinion of the examiner is most useful to the students. They most probably will have to deal in some form or shape with REST services and the answers should proper approach and knowledge about this standard.

Question number: B5
B5.Syllabus area: SECTION 6 - LOCAL AREA NETWORKS
B5 - This question was designed to test the students' knowledge in the area of routing in Local Area Networks. The general impression is that although the functionality and the tasks of routing are well understood, when it comes to detailed knowledge as to how the routers work there is a lot to be desired. The practical sub-question d) was answered correctly by very few candidates.   **(B5_a)** The majority candidates answered this question correctly.   **(B5_b)** The first two types of routers' explanations were not a problem, but the last two required specialised knowledge that was not there.   **(B5_c)** The majority candidates answered this question correctly.   **(B5_d)** This is a practical question to name the row in a routing table which will be chosen by the router to perform routing for a packet with given destination address. It required very technical knowledge as to how the routers perform routing and some candidates not even attempting to guess the answer