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Examiners' Report/ Principal Examiner Feedback

Summer 2015

Pearson Edexcel GCSE In Applied ICT (6959) Paper 01 Communications and Networks

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General Comments

The scenario given in the case study seems to have been more accessible than most, the paint-balling idea being perhaps more familiar to students.

Comments on individual questions

Activity 1 - Network topologies and transmission media

A briefing document for Bert about:

- network topologies
- transmission media.

(a) Less able students failed to put the use of the different topologies into context. More able students had context but made poor use of the benefits of the different topologies, or gave weak reasons for their use. They did, however, discussed each topology, giving plausible uses and sensible reasons.

(b) Most students understood the differences between the media, but too many gave unrealistic uses and / or poor reasons for where and why each medium should be used.

Activity 2 – Research, network design and benefits

(a) An extended writing question on intruder detection systems in the context of the scenario.

Most students were able to explain the principles behind PIR and RFID systems. The part they found more difficult was in finding appropriate versions to fit the scenario. Many students also lost some marks by not considering suitable detection ranges and / or giving poor weaknesses or drawbacks, based on looking at unsuitable versions of a system e.g. stating that RFID systems covering 100m were very expensive, when the scenario would never require that sort of range.

The students' choice of detection system was often well researched and in some cases quite ingenious.

Activity 3 – Components of a network

Tables which identify the hardware and cabling for the LAN.

Only the hardware table was required for this paper, but some students wasted effort by including software and details about the defence devices. Far too many students thought that simply repeating the list of hardware given in the question would be enough to gain the marks. Better students made the effort to give the required detail, makes / models of computers and printers, quantities of cable, sizes of switches etc.

Activity 4 – Network design

A design for the network with notes justifying each major decision.

Most diagrams were clear and well labelled, although many students lost marks by not indicating locations or stating which type of cable was being used. There were still instances of servers and printers being used as hubs and of printers being attached to individual PCs rather than networked as needed.

Students usually missed out the connection between the two floors and the connection for mobile devices, and many missed the Internet requirement. There were still some instances of the Internet being called the Cloud, or just left as a cloud symbol.

As in previous examination series, for weaker students, the notes justifying each major decision regarding the positioning of network devices and equipment, frequently ended up being notes describing the layout or repeating what the case study said should be done. Overall however, more marks were picked up for Part (b) than in previous years.

Activity 5 - Network configuration and protocols.

(a) Security measures.

This was reasonably answered by many students. Most seem to have understood the context of the scenario and gave measures that were aimed at keeping the Paintball subdomain secure from external threats.

(b) Settings for access to defence devices.

Very few students seemed to understand the concept of settings. Most marks were gained by writing about the need for IP addresses and a browser. Only a handful of students understood the need to keep track of the addresses.

(c) Configuration for remote access.

Most marks here were restricted to one or two for describing a VPN or Remote Desktop account or equivalent set up, with the assumption that the target machine was open to the Internet and could therefore be contacted without any intermediate steps. Very few students understood the need for the firewall to be configured or for NAT / port forwarding. There was also limited understanding of client – server relationships.

Standard Ways of Working

Most students gained both marks. Only a handful of students lost one mark by including extra pages.

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