

Principal Examiner Feedback

January 2011

GCE Applied

GCE Applied ICT (6959) Paper 01

Communications and Networks

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General Comments

There is no need for centres to send research material to the examiner. Any research material must be kept securely at the centre until after the results have been published.

Most centres adhered to the ICE document guidelines which prevents access to the Internet and any electronic storage during the question response session, but there were a few instances of text, photographs and diagrams which appeared to come from Wikipedia, and other web sites. The verbatim nature of the text raises the question of supervision standards and whether or not text answers had been copied and pasted.

The case study is released well before the examination but a disappointingly large number of candidates seemed to be unaware of essential parts of the content. Items which were specifically mentioned, e.g. the network being copper cable and fibre optic, were ignored and marks were lost because of this.

Activity 1 - Research, Network Design and Benefits

Most candidates were able to score well in this task. Most candidates were able to write at least generic notes about three technologies. However, the notes should have been written in the context of Janet's requirements as detailed in the pre-release. Weaker candidates tended to deal with this aspect too briefly.

The question asked for appropriate diagrams. These were often too simplistic, e.g. showing a card and a touch plate but no detail of how things worked. Stronger answers included technical detail and some indication of background processing.

Activity 2 - Transmission Media and Network Management

This question was often poorly answered. Most candidates were able to say something about how signals are transmitted within the fibre optic cable, but few were able to gain higher marks by describing how connections are made between the fibre and cable sections of the LAN. Signal conversion was also poorly answered. Most responses described electrical signals are changing to light, and vice versa, by a transceiver, but with no detail at all about how the conversion happens.

Very few candidates met the requirement to submit the evidence on two sides of A4 paper.

Activity 3 - Components of a Network

Candidates often achieved a high mark for this activity. All candidates could correctly identify several relevant components for the network although many lost marks through not having enough of particular items. Cable was frequently under the amount needed.

There were a number of candidates who moved away from the network specification given in the pre-release and in the question. This led to them losing marks since the quantities given in their tables did not match those in the mark scheme, even though they may have been suitable for the candidate's alternative solution.

Many candidates wasted time and effort in researching and describing components that had been specified in the question as already being present. i.e. not new.

Activity 4 - Network Design

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

As with Activity 3, marks were lost by candidates failing to adhere to the design specification.

As in previous examinations, 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.

Activity 5 - Network Addressing and Protocols

(a) Static and dynamic addressing for the network

This was poorly answered by most candidates. Candidates seemed to have little understanding of the technical reasons behind needing static addresses for certain components. There were a significant number of candidates who thought that static v dynamic was to do with whether or not the component was fixed or movable.

(b) Notes for Janet, which answer her concerns about IP addresses.

There were few complete answers to this question. Many candidates were aware of the 192.168.1.0 IPs being private network address but fewer were aware that connections between the two networks would use public addresses. Even fewer understood the role that the routers played in making the connections.

(c) A table of VoIP features.

There were a lot of good answers to this question, possibly reflecting the experience of candidates in using the technology themselves. A common reason for candidates failing to get full marks was concentrating on the money saving aspects rather than the VoIP phone features.

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