

Principal Examiner Feedback

June 2011

Applied GCE ICT
6959 01 - Communications and
Networks

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General Comments

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

Most centres adhered to the ICE document guidelines which prevent access to the Internet and any electronic storage during the question response session, but there were a disappointingly large number of photographs and diagrams which appeared to come from Wikipedia, and other web sites. These images, together with the verbatim nature of the text raises the question of supervision standards and whether or not answers had been literally copied and pasted.

The case study is released well before the examination and the great majority of candidates seemed to be aware of the content. Items which were specifically mentioned such as XO laptops and the One Laptop per Child organisation were, in most cases, well researched.

The most common weakness, as in previous examinations, was the failure to work with the context. In this case, a small school, with untrained staff, in a remote African township.

Comments on individual questions

Activity 1 – network components and design.

Notes for Hishima, which describe homemade WiFi antenna technology.

Most candidates were able to score well in this task. Most candidates were able to write at least generic notes about the three antenna types given. However, the notes should have been written in the contexts of the distance to be covered and Hishima having to make the chosen antenna. Stronger candidates were able to give dimensions and in some cases, a simple parts list. Weaker candidates tended to ignore these aspects.

The question asked for appropriate diagrams, these were often too simplistic, showing a shape but no detail of how things worked. Better answers included technical detail and some indication of radiation pattern, such as ray traces.

Activity 2 – Network topology and connectivity.

Answers to four frequently asked questions about WiFi mesh technology.

This question was often poorly answered. Most candidates were able to say something about mesh networks in part (a), but far fewer were able to get marks by describing the features of an XO laptop. In many cases, candidates seemed to have simply copied from the XO laptop specification without understanding how the described features aid the formation and operation of a mesh.

Very few candidates were able to provide any figures for (c), the expected performance.

Activity 3 – Components of a network.

A paragraph about each of the items available to use in the network..

This was a change from the usual style of components question where candidates have to state what they want to use. In this case they were given a list and asked to comment on each item. Too many candidates misunderstood what was required and seemed to have tried to use everything instead of selecting what they really needed. A large number of candidates went into detail about how the various items worked rather than addressing the question. This was especially true of the switches.

There were a number of candidates who moved significantly away from the network specification given in the pre-release and the question. In particular, trying to cable each classroom and attach the XO laptops by Ethernet, a facility which the laptops do not have.

Another common error was to try and connect the printers, which only connect via USB, as network printers using Ethernet cable.

Activity 4 – Network design.

A design for the network with notes justifying each major decision on positioning of devices.

Most diagrams were clear and well labelled, although many candidates lost marks by not identifying cable types or indicating locations. There were still instances of servers being used as.

As with Activity 3, marks were lost by candidates failing to adhere to the design specification and trying to make a fixed cabled network.

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) Notes for Hishima on DHCP and how it would help him, private Class C networks, scopes and reservations

This was poorly answered by many candidates. Most could give descriptions of DHCP, etc. although in many cases the words had simply been copied from a source and there was no attempt to put them into the scenario context. Hishima and the school network were often not mentioned at all.

(b) Answers to TanCel's questions about scopes and reservations

There were few good answers to this question. Even candidates who had scored well on scopes and reservations in (a), seemed largely unable to apply the knowledge to the situation given in the scenario.

Activity 6 – Network management

Guidance notes for six network management tasks that Hishima could reasonably be expected to perform.

The key words here are Hishima could reasonably be expected to perform. Far too many candidates gave notes on network management tasks that were applicable to large companies and which Hishima would have no need to perform, even if he had the equipment and technical ability.

Those candidates who did consider the scenario were usually able to give six sensible tasks and some limited guidance notes. Better candidates were able to give sufficiently simple tasks, such as Defrag the Toshiba, change ink cartridges, or add / replace a device, that they could also give good instructions for completing the task.

Standard Ways of Working

Most candidates gained both marks. Only a handful of candidates lost one mark by putting work in the wrong order or including extra pages.

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