Examination report – June 2014 series

2730-014 Communication Systems and Digital Networks 3

Section 1 – Areas of good performance
Syllabus reference: 1.8 / 1.9 – Explain what the ISO/IEC 11801 standard states and give reasons why the standard was formulated. List the elements that make up the generic cabling system and describe their function. These sections were answered reasonably well. Syllabus reference: 1.6 – Explain the meaning of the term 'structured cabling' in the context of commercial premises cabling for data communication. This section was answered reasonably well, although the meaning of 'structured' cabling was explained very briefly and sometimes incorrectly. Syllabus reference: 1.11 / 4.9 – Demonstrate knowledge of different media types recognised by the ISO/IEC 11801 standard. Describe client-server computer systems and compare a clientserver computer system to a peer-to-peer computer system. These sections were answered fairly accurately by most candidates Syllabus reference: 1.18 – List parameters that are tested in link performance tests and explain their meaning. This section was occasionally answered weakly costing marks. Syllabus reference: 4.12 – State the advantages of VOIP over conventional telephone systems. Accurate advantages were provided in most cases. Syllabus reference: 2.17 / 2.18 – Identify the different transmission media deployed in LANs. State typical areas covered by LANs. A good understanding of cabling structures and LAN coverage given in this section, showing a good understanding in these areas. Syllabus reference: 2.11 – Describe how Ethernet and token ring technologies work and explain the terms half and full duplex. The answers to this section were sometimes untidy. Syllabus reference: 2.15 – Explain the cause and effect of congestion on a network. This section was answered well, showing a good knowledge of network congestion problems. Syllabus reference: 2.10 – State the various shared media LAN technologies in use today and their operating speeds. Half of the candidates answer this section well, but the remaining candidates answered this section poorly. Syllabus reference: 3.4 – Describe the different data transmission media currently in use. This section was answered reasonably well, although marks were sometimes lost because of untidy, vague sketches which were difficult to identify reading labelling. Syllabus reference: 6.7 – Recognise security issues within an IDC. This section was answered well by most candidates. Syllabus reference: 5.20 – Outline the security issues that relate to network management. All sections re security issues were answered reasonably well by most candidates.

Syllabus reference: 5.7 – Describe the issues that relate to the management of a computer network.
Generally, the parts in this section were answered accurately, but sometimes marks were lost as answers simply repeated the wording in the question, instead of descriptions.

Syllabus reference: 2.22 / 2.24 / 6.3 / 6.8 – Provide examples of MANs. Explain the IEEE 802 standards for LAN access control. Outline services offered by an IDC. List and describe methods of improving security.
These sections were answered well, showing a good understanding of these areas.
Occasionally marks were lost because of brevity regarding descriptions or explanations.

Section 2 – Areas for development

Syllabus reference: 4.13 – Describe the possible issues which relate to the implementation of VOIP.
In this section there was a lack of correct answers, mainly because most candidates did not seem to understand the operation of a VOIP session.

Syllabus reference: 4.4 – Identify methods of connecting equipment of a network.
The actual connecting methods were seldom given correctly, many candidates stating devices such as routers as a connecting method.

Syllabus reference: 2.9 – Explain the difference between broadcast-media-access and non-broadcast-media-access technologies.
Mixed answers were given in this section, mostly incorrect regarding the operation of the two systems.

Syllabus reference: 3.13 / 3.15 – Describe the operation of add/drop multiplexers. Explain the function of virtual containers in the SDH multiplex system.
These parts were answered insufficiently, lacking detail in most cases.

Syllabus reference: 3.14 – Describe how the various classes of PDH traffic can be transported by the level one Synchronous Transport Module (STM-1).
Mostly incorrect answers regarding PDH classes were given here showing a lack of knowledge in this area.

Syllabus reference: 6.5 – Understand the basics of the technologies used within an IDC operation.
Most candidates failed to explain accurately these systems. Quite often descriptions were weak and lacked detail in terms of their functions.

Syllabus reference: 5.10 – Describe the elements of an NMS.
Many candidates failed to correctly describe the NMS elements, agents and management stations, showing a lack of understanding in these areas.

Syllabus reference: 5.14 – Explain the differences between RMON and SNMP.
Most candidates failed to correctly explain the differences between RMON and SNMP, showing a lack of understanding in these areas.

Section 3 - Recommendations

Read questions carefully and when diagrams are called for, produce them in a clear neat manner.
If descriptions or explanations are required, make sure they are detailed enough.