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# Level 3 Technical Level

# **IT: Networking**

Unit 6 – Network Security Management  
Report on the Examination

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## General Comments

This was the first live paper for this component. In general, learners responded well and as anticipated by the mark scheme, in some instances answering very well and beyond what was expected in the mark scheme.

Questions that were well answered included multiple choice questions 1, 3 and 5 (81%, 92%, and 96% of learners, respectively, achieving the mark for these three questions). Learners also responded well to short answer questions 6, 10.1, and 13.1 and the more challenging extended response question 12.

Question 17.2 was the only question where every learner achieved at least one mark. Questions that were not well answered were short answer questions 9, 10.2, 11, and 14.2. The more demanding, longer response question 17.2 was also not answered well on the whole.

## Section A

### Multiple Choice Questions 1-5

Most learners found no difficulty in answering three of the five multiple choice questions, with multiple choice questions 1, 3, and 5 proving most accessible but multiple choice questions 2 and 4 appearing more challenging to learners.

- 6** This was a successful question with a little over three out of four (77%) of learners gaining their mark. Some of those learners who were successful made specific reference to a distributed denial-of-service attack being a larger scale attack.
- 7** Another successful question, with almost half of learners (46%) achieving both marks, and with 96% of learners achieving at least one mark. Successful learners were clear that while Spyware accessed personal or sensitive data covertly, Adware while often annoying was harmless.
- 8** About a third (35%) of learners achieved both marks for this question, with a little over four out of five learners (81%) achieving at least one mark. Learners overall answered well with responses as anticipated in the mark scheme.
- 9** Learners were less successful with this question, indeed only one learner achieved both marks, though half (50%) of learners achieved at least one mark. The solitary successful learner was clear that WPA2 provided a larger, far more random encryption key compared with WPA and was therefore able to ensure better security.
- 10.1** A little over four out of five learners (81%) achieved their mark for this question. It was pleasing to find additional, specific reference to the scanning of inbound and outbound user traffic, analysis of suspicious patterns, as well as reference to a DMZ (demilitarised zone).
- 10.2** Only 15% of learners achieved all three marks for this question, though a little over three out of four (77%) of learners gained at least one mark. Those successful with this question provided responses as anticipated by the mark scheme.
- 11.1** This question also proved challenging, no learner achieving all four marks and only two learners achieving three marks. Almost three out of four (73%) of learners gained at least one mark, with most learners who achieved this mark making reference to user accounts, user privileges, or admin privileges.
- 11.2** Over half (54%) of learners achieved their mark with some learners additionally suggesting signal strength as an acceptable answer.
- 12** While only 8% of learners achieved the full six marks for this question, almost one in four (23%) achieved five or six marks for this question, with a little over three out of four (77%) of learners gaining more than half marks from this more challenging, extended response question.
- 13.1** Almost one in five (19%) of learners achieved the full four marks for this question, with a little over two out of five learners (42%) achieving more than half marks for this question. 85% of learners achieved at least one mark for this question. More successful learners made reference to security and access control, and penalties that included replacement cost due to accidental damage or negligence.

- 13.2** Almost half (46%) of learners achieved both marks for this question, with 96% of learners achieving at least one mark. It was pleasing to find learners making additional reference to improved working relations between client and provider following the adoption of an SLA, including customer loyalty, and return business.
- 14** This three part question (14.1, 14.2, 14.3) proved appropriately challenging, and some learners did achieve both marks available for each sub-question.
- Almost one in five (19%) of learners achieved both marks for 14.1; just 8% achieved both marks for 14.2; almost a third (31%) of learners achieved both marks for 14.3.
  - Overall, learners found most success with 14.3 with 65% of learners achieving at least one mark; almost half (46%) of learners achieved at least one mark for 14.1; less than a third (31%) of learners achieved at least one mark for 14.2.
  - Learners successful with 14.1 understood the relevance of allowing or denying device access in order to secure a network effectively.
  - It was pleasing to find reference in learner responses to 14.3 to the simplicity of single key encryption.
- 15** This was a challenging, extended response question: only one learner achieved the full six marks available for this question; less than a third (31%) of learners achieving more than half marks. However, half of all learners (50%) achieved at least half marks. More successful learners understood that banner grabbing could target an IP address; other more successful learners understood port scanning disabled ports not in use.
- 16** Again, this was a challenging, extended question and, again, only one learner achieved the full six marks available for this question. Again, less than a third (31%) of learners achieved more than half marks.

## Section B

- 17.1** While only 12% of learners achieved all four marks available for this question, more than a third (35%) achieved more than half marks. 96% of learners achieved at least one mark.
- 17.2** No learner achieved full marks for this, the first of two intentionally very challenging eight mark questions. Indeed, the highest mark achieved for this question was six marks, achieved by just 8% of learners, with only 12% of learners achieving more than half marks. Over a third (35%) of learners achieved at least half marks. All learners were able to achieve a creditworthy response
- 17.3** This was the second of two intentionally very challenging eight mark questions. Again, no learner achieved full marks for this question. Again, the highest mark achieved for this question was six marks, again achieved by just 8% of learners. 50% of learners achieved at least half marks. 96% of learners were able to achieve a creditworthy response
- 17.4** Only one learner achieved the full four marks available for this question. 12% of learners achieved more than half marks and almost three out of five learners (58%) achieved at least half marks. 88% of learners were able to achieve a creditworthy response, learners answering

well included additional relevant responses variously related to devices to be included, audited, security and compliance, and authentication and access control.

- 17.5** Almost one in five (19%) of learners achieved both marks available for this question, with a little over three in five (62%) of learners achieving at least one mark. Given that this content has only been published relatively recently, it was pleasing to see an awareness of relevant content within learner responses.
- 17.6** Almost one in five (19%) of learners achieved the full four marks available for this question. A little less than a third (27%) of learners achieved more than half marks, while almost three out of four learners (73%) achieved at least half marks. 96% of learners were able to achieve a creditworthy response with the most common single mark answer making reference to physical hard tokens

### **Use of statistics**

Statistics used in this report may be taken from incomplete processing data. However, this data still gives a true account on how students have performed for each question.

### **Mark Ranges and Award of Grades**

Grade boundaries and cumulative percentage grades are available on the [Results Statistics](#) page of the AQA Website.

### **Converting Marks into UMS marks (*delete if appropriate*)**

Convert raw marks into Uniform Mark Scale (UMS) marks by using the link below.

[UMS conversion calculator](#)