
Level 3 Technical Level

IT: Cyber Security

IT: Networking

IT: User Support

Unit 2 – Communication Technologies
Report on the Examination

H-507-6426
January 2018

Version: 1.0

General Comments

Questions that were well answered included multiple choice questions 2, 3 and 4 (93%, 82%, and 75% of learners, respectively, achieving the mark for these three questions).

Learners also answered well short answer questions 7, 9, 11.1, 12, 13.2, 15.1, 15.2, and 17. Questions 12 and 15.2 were the only questions where every learner achieved at least one mark. Question 10 was not answered well, with just one learner achieving any marks at all for this question. Other questions that were not well answered were short answer questions 6, 10, and 13.3. More demanding, longer response questions not answered well were questions 16 and 18.2.

Section A

Multiple Choice Questions 1-5

Most learners found no difficulty in answering four of the five multiple choice questions, with multiple choice question 3 proving most accessible but multiple choice question 1 appearing to challenge learners.

- 6** This was another seemingly straightforward question that appeared challenging for learners: no learner achieved both marks and only 11% of learners achieved any mark at all. Those learners who were successful made appropriate reference to slower transmission being an unintended consequence of using tools intended to remove impulse noise.
- 7** This was a much more successful question with almost four out of five learners (79%) achieving a mark. Almost half of all learners (46%) achieving both marks. Learners included reference to electromagnetic waves distorting the original signal.

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- 8** No learner achieved all three marks but half (50%) of learners achieved at least one mark. Successful learners made appropriate reference to raising standards, reliability, and quality of service.
- 9** Another question well-answered by some, with half (50%) of learners achieving both marks and with 75% of learners achieving at least one mark. This was a very straightforward question and successful answers were as expected in the mark scheme.
- 10** This question proved particularly challenging with just one learner achieving any marks at all for this question.
- 11.1** Again, another question well-answered by some, though with only 14% of learners achieving both marks and 89% of learners achieving at least one mark. It was pleasing to note that some learners were aware that 4G is now as fast as some broadband.
- 11.2** Over half (54%) of learners achieved the mark with some learners additionally suggesting signal strength as an acceptable answer.
- 12** A very straightforward question, with many prompts unavoidably provided given the nature of the question. This is one of only two questions where all learners achieved at least one mark, with almost half (46%) of learners achieving all three marks available.
- 13.1** More than three out of five learners (61%) achieved at least one mark for this question, though with almost one in five (18%) of learners achieving both marks. Successful responses were as expected in the mark scheme.
- 13.2** While no learner achieved all three marks, almost three out of four learners (71%) achieved at least 1 mark. Some responses provided inappropriate reference to transmission of data. More successful learners suggested direct interaction with the end user.
- 13.3** Responses to this question were disappointing with only one learner achieving all four marks available and only 14% of all learners achieving any marks at all. Centres may find it useful to make reference to the completed table provided in the mark scheme when referencing this unit of data.
- 14** Although over half of all learners (62%) achieved at least one mark, only one learner achieved all three marks available. The range of responses to this particular question was pleasing with learners making appropriate reference to IMEI allocation by manufacturer, recognition of obsolete or stolen devices, and GSM use to locate missing handsets.
- 15.1** While only 14% of learners achieved all three marks for this question, 93% of learners achieved at least one mark. Successful responses were as expected in the mark scheme.
- 15.2** This is one of only two questions where all learners achieved at least one mark. While just 11% of learners achieved all three marks, almost four out of five learners (79%) achieved two of the three marks available. Again, successful responses were as expected in the mark scheme.
- 16** No learner achieved more than half marks for this six mark question and, indeed, only one learner achieved half marks for this six-mark question. While 75% of learners did achieve at least one mark for this question, most learners who achieved a mark at all achieved just one mark. Learners failed to focus on how to best manage network traffic, particularly during periods of peak demand. Those learners who were successful did make reference to the need to restrict data sent over the network.

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- 17** While only one learner achieved all four marks available, 25% of learners achieved at least three marks, with 75% of learners achieving at least one mark for this question. Again, the range of responses to this particular question was pleasing with learners making appropriate reference to data speed, data transfer rate, and data transmission and clearly understanding that network transmit data in bits.

Section B

- 18.1** While only two learners achieved all three marks available for this question, 25% of learners achieved at least two marks and over half of all learners (54%) achieved at least one mark. Successful learners were clear in their responses that over-the-air updates were received directly from a server and directly to a device.
- 18.2** This was the first of two challenging questions and was worth a maximum of 12 marks. Only 14% of learners achieved half marks or more than half marks; 11% of learners failed to provide any creditworthy response.
- 19** This final question was intentionally the most challenging question of this paper and was worth a maximum of 15 marks. Despite the high level of demand, 32% of learners achieved more than half marks, with two learners achieving at least two-thirds of all marks available. Commendably, no learner failed to provide any creditworthy response.

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](#)