MODULE R EXAM TECHNIQUE · R3

Command words and what they are asking for: mark scheme

20 marks · Cambridge 0478 syllabus command words table, with content from 1.1.1, 1.3.2, 2.1.2(a), 2.2.2, 3.1.2(a), 3.2.1, 5.3.1, 5.3.2, 6.1.2

How to use. One mark per creditworthy point up to the maximum shown. **/** separates alternative words; **//** separates alternative answers for the same point. Words in (brackets) are not needed for the mark. **...** means the point builds on the one before it. Credit any other valid answer that does what the command word asks. Do not credit vague answers such as "faster", "better" or "easier" on their own (too vague).

QUESTION	ANSWER	MARKS	GUIDANCE
1 0478 command words	One mark for each correct row: Define: C Describe: E Explain: A Suggest: D	**4**	B (Compare) is not used. A row with more than one letter scores 0.
2 0478 command words; 1.1.1, 3.2.1, 2.2.2, 3.1.2(a)	One mark for each correct row: Explain why ... binary: answer that gives reasons Give one example ... input device: short answer Describe how ... odd parity check: main features or steps Identify the register ...: short answer	**4**	Two or more ticks in a row = 0 for that row. (Teacher note, the answers: logic gates / switches have two states, so data is processed as 1s and 0s // e.g. keyboard // parity bit makes the number of 1s odd; 1s recounted after transmission; even = error // program counter.)
3(a) 0478 5.3.1; Describe	Any two from: An email / message is sent (to the user / to many people) ... that appears to come from a legitimate / trusted / genuine source (e.g. their bank) It contains a link / an attachment ... the link goes to a fake website The aim is to get the user to give personal / login / bank details (or to download malware)	**2**	max 2. Do not accept answers describing pharming (malicious code that redirects the user without clicking a link). "A scam email" alone = too vague.
3(b) 0478 5.3.2; Explain	Any two from: The URL may be different from / not match the real website's address // may be misspelt / have extra characters ... so staff can see that the link goes to a fake website ... so staff do not click the link / do not enter their details // so personal / login details are not given to the attacker Staff can check the URL by hovering over the link (without clicking it)	**2**	max 2. A reason ("so ...") must be given for the second mark; "check the URL is correct" alone = max 1. Do not accept "the URL stops the email arriving" or answers about firewalls / anti-malware (the question is about checking the URL).

QUESTION	ANSWER	MARKS	GUIDANCE
4(a) 0478 2.1.2(a); Compare	Any one from: It only refers to / only describes full-duplex It does not mention half-duplex // gives no similarity or difference between the two methods	**1**	Do not accept "it is wrong": the point about full-duplex is correct.
4(b) 0478 2.1.2(a)	Any two from: Both send data in both directions Half-duplex sends data in only one direction at a time, but full-duplex sends in both directions at the same time In half-duplex the devices must take turns / wait to send, but in full-duplex they do not need to wait Full-duplex can transfer more data in the same time than half-duplex (for the same connection speed) Example uses that refer to both, e.g. half-duplex: a two-way radio (walkie-talkie) and full-duplex: a telephone call	**2**	max 2. Each point must refer to both methods; a point about one method only (including the given point) = 0. Do not accept "half-duplex only sends data in one direction" (that is simplex) or "full-duplex is faster" alone.
5 0478 6.1.2; Suggest	Any three from, each applied to the farm: Trees are watered only when the soil needs it // the soil is checked all the time / day and night Less water is wasted // lower water costs Fewer workers are needed to water the trees // lower labour costs // staff are free to do other jobs Watering is more consistent / accurate than by hand ... so the trees / fruit grow better // fewer trees are lost from too much or too little water It keeps working when no staff are on the farm (e.g. at night, at weekends) The system reacts more quickly than a person to dry soil	**3**	max 3. Credit any other valid advantage applied to the farm. "Faster", "cheaper" or "more efficient" alone = too vague. The same idea twice scores once.
6 0478 1.3.2; Calculate	One mark for a correct stage of working, one mark for the correct answer: 128 × 64 × 16 (= 131 072 bits) // 131 072 ÷ 8 (= 16 384 bytes) // 16 384 ÷ 1024 16 (KiB)	**2**	max 1 for working. Correct answer with no working seen = 1 mark only (the question asks for all working). Do not accept 16.384 or 16.4 (dividing by 1000): 0478 calculations use 1024.

Total: 20 marks