MODULE R EXAM TECHNIQUE · R3

Command words and what they are asking for: mark scheme

20 marks · OCR J277 spec section 3d (command words), with content from 1.1.1, 1.2.2, 1.2.3, 1.2.5, 1.3.1, 1.3.2, 2.1.3

How to use. 1 mark per bullet up to the maximum shown. **/** separates alternative words; **//** separates alternative answers for the same mark. Words in (brackets) are not needed for the mark. **...** means the bullet depends on the one before it. NE = not enough. BOD = benefit of the doubt. Credit any other valid answer that does what the command word asks. Do not credit vague answers such as "faster" or "better" on their own.

QUESTION	ANSWER	MARKS	GUIDANCE
1 J277 3d	1 mark per row: State: B Describe: D Explain: A Refine: E	**4**	C (Outline) is not used. A row with more than one letter scores 0.
2 J277 3d; 2.1.3, 1.3.1, 1.2.2, 1.1.1	1 mark per row: Describe ... linear search: detailed account of what happens Identify ... topology: short answer Explain why ... solid state: account that gives reasons State the purpose ... PC: short answer	**4**	Two or more ticks in a row = 0 for that row. (For the teacher: the answers would be: checks each item in turn from the start until found or the end is reached // star // e.g. small and durable with no moving parts, so suits a device that is carried and dropped // holds the address of the next instruction.)
3(a) J277 1.2.5; 3d Describe	1 mark each to max 2: (Some) data is removed / deleted (from the file) ... permanently // the original (file) cannot be restored / rebuilt The file size is reduced / made smaller The quality (of the image) may be reduced / lowered	**2**	This is a Describe question: reasons (e.g. "so it loads more quickly") are not needed and gain no marks. Do not accept "data is lost" and "data is removed" as two separate points. Do not accept "no data is lost" (that is lossless).

QUESTION	ANSWER	MARKS	GUIDANCE
3(b) J277 1.2.5; 3d Explain	1 mark for a point, 1 mark for the linked reason, max 2: The photos (files) are (much) smaller (than with lossless) ... so they download / load in less time for visitors // so pages load more quickly ... so less bandwidth / data is used when the pages are viewed ... so less storage space is needed on the web server The loss of quality is (usually) not noticeable (on a screen) // the quality is still good enough to show the item	**2**	Max 1 if no reason / consequence is linked to a point. "Faster" alone = NE: must say what is faster (e.g. the page loads in less time). "Saves space" alone = NE.
4(a) J277 3d Compare; 1.3.2	1 mark from: It only refers to / only talks about wireless (connections) It does not refer to / mention wired connections // it does not give any similarities or differences between the two	**1**	Do not accept "it is too short" or "it is wrong": the points about wireless are correct.
4(b) J277 1.3.2	1 mark per comparison, max 2: Wired connections are usually more reliable / have less interference than wireless Wired connections usually have a higher bandwidth / transfer data at a higher speed than wireless Wireless signals can be intercepted from further away (e.g. outside the building), wired needs physical access to the cable // wired is (usually) more secure than wireless Wired costs more / takes longer to install because cables must be laid, wireless needs no cables Wireless signal / performance can be reduced by distance or walls, wired is not affected in the same way Wired devices must stay where the cable is, wireless devices can move // more devices can be added easily with wireless than wired Both connect the computers to the (office) network / allow data to be shared (a similarity)	**2**	Each point must refer to both wired and wireless (both named, or a clear comparative such as "wired is more reliable than wireless"). A point about one type only = 0. "Wired is faster" = BOD as a comparison of data speed. Do not credit a repeat of the given answer (moving laptops, quick to set up) unless it is now compared with wired (e.g. "wired devices are fixed to one place"). Mark the first two points only.
5(a) J277 1.2.2; 3d Identify	1 mark from: Solid state (e.g. external SSD / USB flash drive) Magnetic (e.g. external / portable hard disk drive)	**1**	Accept a named device of either type. Do not accept optical (a disc cannot hold 2 TB). Do not accept cloud storage (not a type of secondary storage device). If optical is given, 5(b) scores 0.

QUESTION	ANSWER	MARKS	GUIDANCE
5(b) J277 1.2.2; 3d Justify	1 mark each to max 2, matching the choice in (a): **Solid state:** durable / robust / no moving parts (so it is unlikely to be damaged when carried in a bag) Small / light / portable (so easy to take home each week) High enough capacity to hold 2 TB Fast (read/write) speed (so the 2 TB backup takes less time) **Magnetic:** high capacity (so it can hold 2 TB and later backups) Low cost per GB / cheap for a large capacity Portable (external drive) (so it can be taken home) Reliable / long life for storing backups	**2**	Justification must match the choice. For magnetic, do not accept "durable" / "no moving parts". For solid state, do not accept "cheapest per GB". "Large capacity" must relate to the 2 TB (or "high capacity"); "big" alone = NE. "Fast" alone = NE. Words in brackets show the link to the scenario; they are good practice for Justify but are not needed for the mark.
6 J277 1.2.3; 3d Calculate	1 mark for working, 1 mark for the answer: Working: 8,000 × 10 × 16 (= 1,280,000 bits) // ÷ 8 (= 160,000 bytes) // ÷ 1,000 Answer: 160 (KB)	**2**	Accept 156.25 KB (division by 1,024). Correct answer with no working seen = 1 mark only (Calculate and "Show your working" ask for the stages). Award the working mark for 8,000 × 10 × 16 or 1,280,000 or 160,000 seen, even if the final answer is wrong.

Total: 20 marks