MODULE I IMPACTS AND THE LAW · I7

Software licences: mark scheme

20 marks · OCR J277 spec 1.6.1: software licences (open source and proprietary): the need to license software and the purpose of a software licence; features of open source and of proprietary; recommend a type of licence for a given scenario including benefits and drawbacks

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. **...** at the start of a bullet means it builds on the bullet before. Credit any other valid answer that shows the same understanding.

QUESTION	ANSWER	MARKS	GUIDANCE
1(a) J277 1.6.1	Source code is provided: Open source Bought off-the-shelf, licence fee paid: Proprietary Users allowed to change the software: Open source Users cannot see the source code: Proprietary	**4**	1 mark per correct row. 2 ticks in a row = 0 for that row.
2(a) J277 1.6.1	A legal agreement / contract (between the owner / developer and the user) It states how the software may / may not be used / copied / shared / distributed / changed // sets out what the user is (and is not) allowed to do with it It gives the user permission to use software that is protected by copyright (which they do not own) e.g. it sets the number of users / devices / computers that may use it // how long it may be used for	**2**	1 mark per bullet, max 2. Do not accept "it lets you use the software" alone without the idea of permission / rules (NE). Do not accept "it stops hacking / viruses" or "it proves you bought it" alone. Credit any other valid answer.
2(b) J277 1.6.1	To protect its copyright / intellectual property / its program code ... ... so the shops cannot legally copy / share / resell / give away the software // so that copying it without permission is illegal / pirating can be acted on So that it gets paid for each copy / user / shop // to protect its income / so it earns money from its work To control / limit how the software is used, e.g. the number of computers / users in each shop So it can take legal action if a shop breaks the terms of the licence	**2**	1 mark per bullet, max 2. "Explain": at least one reason must be given (protect copyright / income / control use). Do not accept "so people buy it" or "to make money" alone without the link to copies / users being paid for (NE). Do not accept "to stop the software being hacked". Credit any other valid answer.

QUESTION	ANSWER	MARKS	GUIDANCE
3(a) J277 1.6.1	**Cost:** it is usually free / no licence fee to pay (1) ... so the charity's small budget can be spent on other things // it can be installed on all six laptops without paying for each one (1) **Customise:** the source code is provided / can be accessed (1) ... so the volunteer who can program can change / adapt it, e.g. to make the booking program fit how the hall's rooms are booked / add features the hall needs (1) **Copies:** the licence (usually) allows it to be copied / shared / redistributed (1) ... so it can be put on more laptops if more are donated // given to other volunteers without breaking the law (1) **Community:** a community of users / developers can find and fix bugs (1) ... so problems may be fixed without the charity paying // the volunteers can get help from online forums (1) **Not tied to one company:** the charity does not depend on one company (1) ... so it can keep using / changing the software even if a group stops working on it (1)	**4**	Mark in pairs: 1 mark for the benefit, 1 mark for the expansion applied to the charity. Max 2 per benefit; two different benefits for 4 marks. Mark the first two benefits. Accept "free" for the first mark of the cost pair. Do not accept "better", "faster" or "more secure" alone (NE). Do not accept "comes with official support". Credit any other valid benefit of open source applied to the charity.
3(b) J277 1.6.1	There is limited / no official support / help desk (1) ... so if a laptop or the booking program goes wrong the volunteers must rely on forums / their own skills // problems may take a long time to fix (1) It may be less (thoroughly) tested // may contain bugs / errors (1) ... so the booking program could fail / lose bookings (1) Updates / patches are not guaranteed / may be irregular (1) ... so security holes / bugs may not be fixed quickly, putting the laptops / booking data at risk (1) Anyone can see the source code (1) ... so people with bad intentions could find weaknesses to attack (1) Changes depend on the one volunteer who can program (1) ... so if they leave, the changed software may be hard to fix / maintain (1) It may not be compatible with / open files from proprietary software that others use (1) ... so documents sent to / from the hall may not open or display correctly (1)	**2**	Mark in pairs: 1 mark for the drawback, 1 mark for the expansion / consequence for the charity. Mark the first drawback only. Do not accept "it costs money" or "you cannot change it" (these are not drawbacks of open source). Do not accept "it is illegal" or "it has viruses" alone. Credit any other valid drawback of open source applied to the charity.

QUESTION	ANSWER	MARKS	GUIDANCE
4(a) J277 1.6.1	No mark for the choice of licence alone. Either choice can score full marks if justified. **If proprietary (Option B) is recommended:** Benefit: telephone help desk / official support ... so problems are fixed quickly and reports still reach clients by the deadline Benefit: it has been tested (before release) // is likely to be reliable ... which matters because the software must work every day Benefit: regular updates / patches from the company ... fix bugs / security holes, protecting clients' reports Benefit: staff cannot program, so they do not need the source code // the open source benefit of changing the code is of no use to this firm Benefit: the company is responsible for the software / the firm has a legal agreement with the company it can rely on Drawback: it costs money // a licence fee must be paid every year for each of the 40 staff ... so it is expensive for the firm (and costs rise if more staff join) Drawback: the source code is not provided, so the firm cannot change / customise the software // must wait for the company to add features Drawback: restricted use, e.g. it may only be installed / used by the number of staff paid for // copies cannot be shared Drawback: the firm depends on the company // if the company stops supporting it, the firm has no updates **If open source (Option A) is recommended:** Benefit: free / no licence fee for 40 staff ... saving the firm money every year Benefit: can be installed on as many computers as needed // no limit on the number of staff who use it Benefit: the source code is provided, so the firm could pay a programmer to customise it (e.g. report layouts) Benefit: a community of users may find / fix bugs Drawback: support only from volunteers on a forum, when they have time ... so a fault might not be fixed before a client deadline Drawback: may be less tested / less reliable // updates are not guaranteed Drawback: staff cannot program, so they cannot fix or change it themselves Drawback: the source code can be seen by anyone, so weaknesses could be found by attackers, putting client reports at risk	**6**	1 mark per valid point that supports the recommendation, max 6. Credit benefits and drawbacks of the recommended licence, and drawbacks of the other licence used as a reason against it. Max 4 if the answer gives no drawback of the recommended licence. Max 3 if no points are applied to the firm (e.g. its 40 staff, no programmers, deadlines, need for reliability). If no licence is identified, mark the points but max 4. Do not credit points that contradict the recommendation (e.g. recommends open source because "it has a help desk"). Do not accept "cheaper", "better" or "more secure" alone (NE). Credit any other valid point that supports the recommendation.

Total: 20 marks