

7.1.3 System Specification

Syllabus 2026 - 2028

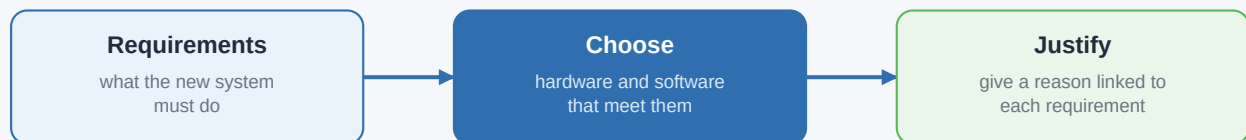
WHAT YOU NEED TO KNOW

- Identifying suitable hardware and software for the new system
- Justifying the choice of hardware and software

What a system specification is

The **system specification** lists the hardware and software needed for the new system. Each item is chosen to meet the **requirements** found in the analysis, and the choice must be **justified**, which means giving a reason that links it to a requirement.

Figure 19: From requirements to a justified specification



Consider: cost, performance, compatibility, users' skills, security, reliability

Hardware to consider

Type	Examples	What to consider
Input devices	Keyboard, mouse, scanner, barcode reader, microphone, camera, touch screen	What data must be entered, how fast, and by whom
Output devices	Monitor, laser or inkjet printer, speakers, projector	What is to be produced, such as reports, receipts or sound; quality and volume
Storage	Internal hard disk or SSD, external drive, memory stick, cloud storage, tape for backup	How much data, how fast access must be, backup and security
Processing	Computers, laptops, tablets, servers	Processor speed, RAM, number of users, whether it needs to be portable
Network hardware	Router, switches, network interface cards, Wi-Fi access points	Number of devices, speed, wired or wireless, internet access

Software to consider

- Operating system:** must work with the hardware and the users' skills
- Application software:** database, spreadsheet, word processor, accounting or other special software
- Utility software:** anti-malware, backup and compression
- Off-the-shelf** software is ready-made and cheaper, while **bespoke** software is written for one customer and fits exactly, but costs more and takes longer
- Other points: cost and licences, **compatibility** with hardware and existing files, ease of use and training needed, security features, and support and updates

Justifying choices

Requirement	Choice	Justification
Convert paper registers into data	Flatbed scanner with OCR software	Quickly turns printed text into data that can be edited and searched, saving typing.
Store and search 5 000 records quickly	Database software	Records can be searched, sorted and updated in seconds, and reports are produced automatically.
Print reports for many learners	Laser printer	Fast, high quality and low cost per page for large print jobs.
Keep data safe if the computer fails	Backup to an external drive or cloud storage	A second copy is held away from the main computer, so data can be restored.
Several staff share the records	Network with a server	All staff can use the same up-to-date data at the same time.

EXAM TIP

A justification must **link the choice to the requirement**. 'A laser printer, because it is fast and cheap per page, which is needed to print 600 report cards' earns the mark. 'A laser printer because it is good' does not.

Key terms

Term	Meaning
System specification	The list of hardware and software needed for the new system.
Hardware	The physical parts of a computer system.
Software	The programs that run on the hardware.
Justify	Give a reason that links a choice to a requirement.
Off-the-shelf software	Ready-made software sold to many customers.
Bespoke software	Software written for one customer's needs.
Compatible	Able to work with other hardware or software.
Specification	A detailed description of what is needed.

Practice questions

Answer each question in full sentences. Command words used: State (give a short answer), Describe (say what it is like), Explain (give reasons), Analyse (break it down and examine it), Suggest (apply your knowledge to a situation), Compare and contrast (similarities and differences), Evaluate (weigh up and reach a judgement).

No.	Question	Marks
1	State two items of hardware that might be needed for a new school library system.	[2]
2	Describe what is meant by a system specification.	[2]
3	Explain why a laser printer may be a suitable output device for a school office.	[2]
4	Suggest suitable software for storing and searching 3 000 learner records, and give a reason.	[3]
5	Compare and contrast off-the-shelf software and bespoke software.	[4]
6	Evaluate the choice of hardware and software for a new school library system.	[6]

Total: 19 marks