**Answers**

1. StoresPlus runs department stores in major cities around the country. They are currently planning a major IT update to their ordering and stock control system so that everything will be handled automatically online in addition to initiating an updated online ordering system for customers.

(a) Explain why each of the following factors must be considered when planning
these updates.

(i) User experience. [2]

The new systems should be easy for both employees and customers to use (1)
so that they can find features that they need for their work (1). The system should be fast to respond (1) so that employees and customers are not kept waiting for an operation to occur (1). It must be available at all times to customers who want to buy online / from various parts of the world (1) to maximise sales (1). It should be accessible to all users (1) including specific disabilities such as partially sighted (1)

(ii) Compatibility. [2]

The new systems should work with existing hardware and software (1) so that new hardware/software doesn’t need to be. New programs should work with existing operating systems (1) so that a new operating system doesn’t need to be purchased and installed (1). New hardware needs to be compatible with existing hardware (1) so that new hardware doesn’t need to be purchased (1)

(iii) Connectivity. [2]

These systems will rely on communications equipment. The speed of the network/LAN (1) will need to be fast enough to accommodate the new updates (1)

(iv) Productivity. [2]

The company will need to check that there is a sufficient increase in sales/profits as a result of the new system (1) to justify the cost of the new system, testing and training (1)

(b) Cost is an important factor that will need to be considered with the new system. One area that contributes to the cost is the need to test the new system

State **four** other areas that will contribute to the cost of the project. [4]

 cost of hardware (1)
cost of software (1)
paying people to carry out the upgrades (1)
training of employees in the new systems (1)
cost of lost productivity and sales during the upgrade (1)
having two systems running at the same time during the migration of the system (1)

(c) Before the software is ready it must be tested extensively.

Explain **two** types of testing that they should carry out. [4]

 Functionality testing (1) tests the new system against the original requirements (1)
Compatibility testing (1) checks that the new software/hardware functions with the existing operating system / networks / mobile devices (1). Stability testing (1) checks that it continues to function over time and over its full range of use without failing (1).
Security testing / penetration testing (1) checks whether the new technology is secure against attacks (1).

(d) At the start of the project timescales are set.

 Describe the use of timescales and the advantages of using them within a project. [4]

Timescales are given for different stages / milestones in a project (1). They can
predict when an entire project will be completed (1). By using them for milestones, it
is possible to show when a project is overrunning in time or cost (1) early in the
project (1) so that contingencies can be put in place / the project can be cancelled
(1). If a timescale is not met a penalty can be given to a developing company/contractor (1).

 [Total 20 marks]