SL Unit 1 - System Fundamentals
Quiz 4

Question 1			
Objectives:	1.1.3	Exam Reference:	May-16 Question 1

Outline one problem of maintaining legacy systems. [2]

*Award up to **[2 max]**.*
*Award **[1]** for evidence that the candidate knows what is meant by "maintaining legacy systems".*
*Award **[1]** for any appropriate problem outlined.*

Example:
Maintaining previous/outdated computer system, which uses old technology and
old application programs ;
That are hard to understand/expensive to change/evolve **because** programs might be disorganized/
documentation might be missing/incomplete/unreliable;
Compatibility issues (typically refer to old programming languages/old database technology);
Maintaining but not updating the old system can lead to compatibility / security issues;
It may be difficult to recruit staff/programmers familiar with old languages/operating systems;
Database contains inconsistencies/redundancies (eg information systems and no DBMS);
Usually pre-internet, needs interfaces;
Typically large and complex systems/mainframes;

Question 2			
Objectives:	1.2.3	Exam Reference:	Nov-15 Question 5.c

A school uses a local area network (LAN) which connects several computers and a printer to a server and allows access to the internet.

Identify **one** external threat to the security of the school's computer system. [1]

*Award **[1 max]**.*
Viruses;
Spyware;
Hackers who attempt to crack the system;
***Note:** Do not accept theft/vandalism/natural disasters*

Question 3

Objectives:	1.2.14	Exam Reference:	Nov-15 Question 1.b

Human interaction with the computer system includes a range of usability problems.

Identify **two** methods that could be used to improve the accessibility of a computer system. [2]

Award up to [2 max].
Voice recognition;
Text to speech;
Use of touch screen;
Braille keyboard; **[2]**
Etc.

Question 4

Objectives:	1.1.13	Exam Reference:	May-15 Question 8.d

An insurance company holds a large database of information about its customers, including the date of their next payment.

Describe **one** method that the company could use to prevent data loss. [3]

Award marks as follows up to [3 marks max].
Award [1 mark] for a suitable measure and [2 marks] for a description related to the insurance company.

Example answers:
Mirror system;
All changes to the records made on two systems;
If one fails then the other holds all current data;

Off site backup;
Snapshots/backups made on a regular basis;
In the case of failure a dated/time stamped copy exists and the state up until then can be used to restore customer records;

Question 5			
Objectives:	1.2.7	Exam Reference:	Nov-15 Question 8.a

A book shop has a computer at each point of sale, and also a central computer.
When a customer buys a book in the book shop, the salesperson at the point of sale uses a scanning device to input a barcode from the book.

The barcode is sent to the central computer where the barcode of each book and the corresponding price are held in a database on a disk.

When the price is found, it is sent to the point of sale computer where all necessary calculations are performed, details of the transaction are stored on a local disk and a receipt is printed out.

Construct a **system flow chart** for the system described above. [5]

Award [1] for all correct labels or symbols.
(Accept meaningful, consistent symbols)
Award [1] for correct input flow.
Award [1] for correct output flow.
Award [1] for correct internal processes.
Award [1] for correct dataflow.
Answers given as a process flowchart may still be awarded [1] or [2].