

General Certificate of Secondary Education

Information and Communications Technology

1453

PAPER 4 (Unit 3)

HIGHER TIER

Specimen Paper

Additional materials:

Answer paper

TIME 1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES

Answer **all** questions.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets [] at the end of each question or part question.

Total marks for this paper is 80.

1 A company uses mail order to sell its goods. A new computerised system is to be introduced.

(a) Describe **two** steps involved in implementing the system.

Step 1 _____

Step 2 _____

[2]

(b) Give **two** items of user documentation which would be supplied with the system.

Item 1 _____

Item 2 _____

[2]

(c) Describe **two** verification methods the company could use when data is entered into the computer.

Method 1 _____

Method 2 _____

[2]

(d) Give **two** reasons why the company uses codes to store data about the goods being sold.

Reason 1 _____

Reason 2 _____

[2]

(e) Describe **two** methods used to ensure that the data is not accidentally lost.

Method 1 _____

Method 2 _____

[2]

2 Tick **two** applications which use real-time processing.

Printing examination certificates.	
Calculating gas bills.	
Central heating system.	
Sending out reminders for overdue books.	
Automatic pilot on an aeroplane.	
Clearing cheques in a bank.	

[2]

3 A mail order electronics company uses a computerised stock control system in its warehouse.

(a) In order to find an item, a six-digit item code number has to be entered into the computer. Give **two** validation checks which could be used on this number.

Check 1 _____

Check 2 _____

[2]

(b) Before the location of the item is displayed on the screen the database has to be searched. State the type of access to the hard disc which is required.

[1]

(c) Give **one** reason it is not suitable to store the database on a CD-ROM?

[1]

(d) The warehouse has a security system. Name **one** device which could be used in this security system and describe how it is used.

Device _____

Use _____

[2]

4 Tick **two** applications which use batch processing.

Monitoring a patient's heartbeat	
Producing electricity bills	
Air traffic control system	
On-line cinema seat reservation system	
Clearing cheques	
Recording the temperature in an experiment	

[2]

5 A company has branches all over the world and uses electronic conferencing to communicate with its employees.

(a) Describe electronic conferencing.

[2]

(b) Give **two** benefits to the company and its employees of using electronic conferencing.

Benefit 1 _____

Benefit 2 _____

[2]

6 (a) One example of where an expert system is used is to help doctors diagnose illnesses. Give **one** other example of an expert system.

[1]

(b) Describe how the expert system will be used.

[3]

7 An automatic weather station is situated on the roof of a school and is connected to a computer in the classroom. The station has an anemometer to measure the speed of the wind.

(a) The computer cannot use the data directly from the anemometer.

(i) Why is this the case?

(ii) What device is needed to solve this problem?

[2]

(b) Give **two** reasons why it is sensible to collect wind data this way.

Reason 1 _____

Reason 2 _____

[2]

8 A customer pays by Electronic Funds Transfer (EFT) at the checkout of a supermarket.

(a) Give **one** item of data which is stored on the magnetic strip of this card.

[1]

(b) Describe what the EFT system does after the card has been swiped.

[3]

10 A software company sends information to its customers by personalised letter. These letters are created using mail merging.

(a) Describe the processes involved in mail merging.

[4]

(b) The company is considering using electronic mail to send information to its customers. Describe the process of sending and receiving electronic mail.

[3]

(c) Discuss the relative benefits and drawbacks of using electronic mail to order and pay for goods.

[4]

