

General Certificate of Secondary Education

Information and Communications Technology

1453

PAPER 3 (Unit 3)
FOUNDATION 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 Ring **two** items used for storing data.

- | | | |
|----------------|-----------------|--------------------------|
| plotter | scanner | TV remote control |
| RAM | keyboard | CD-ROM |

[2]

2 Ring **two** items which can be used to communicate with an office when working from home.

- | | | |
|------------------------|---------------------|-------------------|
| midi instrument | touch screen | mail merge |
| telephone | hard disc | modem |

[2]

3 Complete each sentence below using one item from the list.

- | | | |
|------------------------|----------------------|---------------------|
| email | a spreadsheet | data logging |
| data encryption | control | modelling |
| OMR | a virus | mail merging |

Multiple personalised letters can be created using _____

Collecting results from an experiment in a laboratory is an example of _____

Data on a hard disc is destroyed using _____

Sending messages from one computer to another is called _____

[4]

4 Tick **two** benefits to shoppers of using point-of-sale machines at supermarket check-outs.

Shopping bills can be calculated.	
Itemised receipts can be produced.	
Shopping can be packed by an assistant.	
Prices are printed on all the goods.	
The assistant does not have to key in the prices.	
Customers can pay for their goods using a cheque.	

[2]

5 Tick **two** benefits of using a computerised library system.

Books can be stacked quickly on the shelves.	
Books can be sorted into size.	
Information about books can be quickly found.	
Automatic reminders can be sent to borrowers.	

Fines can be imposed for overdue books.	
Borrower tickets can be issued.	

[2]

6 Tick **one** benefit of using robots to make cars.

Robots never break down.	
Robots do not need paying.	
Robots can think for themselves.	
Robots can replace all jobs done by humans.	

[1]

7 Office staff now use computers for word processing.

(a) Text can be formatted when using a word processor. Give **two** examples of formatting.

1 _____

2 _____

[2]

(b) Give **two** advantages of using word processors compared to using a manual typewriter.

Advantage 1 _____

Advantage 2 _____

[2]

(c) Give **two** ways in which office staff have been affected by the introduction of word processors.

Way 1 _____

Way 2 _____

_____ [2]

8 (a) Give **two** reasons why CD-ROMs are used to store encyclopaedias.

Reason 1 _____

Reason 2 _____

[2]

(b) One type of information stored on a CD-ROM is text. Give **two** other types of information stored on a CD-ROM.

Type 1 _____

Type 2 _____

[2]

9 Give **two** benefits of using a local area network.

Benefit 1 _____

Benefit 2 _____

[2]

10 Give **one** difference between a local area network (LAN) and a wide area network (WAN)

[1]

11 (a) What is meant by a windows environment?

[2]

(b) Give **two** advantages of using a windows environment compared with a command line environment.

Advantage 1 _____

Advantage 2 _____

[2]

12 Instructions need to be written to control a set of traffic lights at a road junction.

(a) Give **one** method you would use to collect data about the traffic flow at the junction.

[1]

(b) State **one** method used to design the set of instructions to control the lights.

[1]

(c) The set of instructions has to be tested. Give **one** method of testing the instructions.

[1]

13 Data is to be keyed into a database. State **two** ways of verifying the data.

Way 1 _____

Way 2 _____

[2]

14 (a) Describe **three** ways the Data Protection Act tries to protect individuals from the misuse of personal data held on computer.

Way 1 _____

Way 2 _____

Way 3 _____

[3]

(b) Other than the misuse of personal data describe **two** ways in which information technology has created problems for the individual.

Way 1 _____

Way 2 _____

[2]

15 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]

16 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]

17 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]

18 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]

19 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]

20 (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]

21 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]

22 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]

