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GENERAL CERTIFICATE OF SECONDARY EDUCATION

INFORMATION AND COMMUNICATION TECHNOLOGY

Paper 3: (Foundation Tier)

2359/01

Candidate Forename

Candidate Surname

Centre Number

Candidate Number

INSTRUCTIONS TO CANDIDATES

- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Answer **all** the questions.
- Do **not** write in the bar codes.
- Write your answer to each question in the space provided.

INFORMATION FOR CANDIDATES

- The number of marks is given in brackets **[ ]** at the end of each question or part question.
- The total number of marks for this paper is **60**.
- This document consists of **8** pages. Any blank pages are indicated.

Turn over

1 Circle **two** features of a Graphical User Interface (GUI).

buzzer   magnetic tape   monitor

motor   pointer   window

[2]

2 Tick **one** box in each row to show whether the following statements about storage devices are True or False.

Statement	True (✓)	False (✓)
A CD-R allows quicker access to data than a hard disk		
A DVD is a portable medium		
A DVD stores more data than a CD		
Data is transferred more quickly from a DVD than from a hard disk		
Data on a CD-RW is permanent and cannot be changed		

[5]

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

bar code reader

keyboard

magnetic stripe

remote control

robot

A ....………………................... can be used to input data from a book in a library.

A …...............………………................... can be used to spray paint on cars.

A ....………………….................... is used to change channels on a television.

A ....………………….................... is used to hold data on a bank card.

A ..…………….............................…................... is used to input text to a word processing package.

[5]

4 A school is computerising its student test scores. Part of the database is shown below.

Student number	Teaching group (2 letters, 2 numbers,1 letter)	House	Test score (out of 100)
9506712358	AK09C	Clent	92
9506712361	BG09B	Wenlock	87
9506712359	TV09A	Malvern	71
9506712360	BG09B	Kinver	66
9506712349	DG09A	Malvern	59

(a) Write down the number of records shown.

.... [1]

(b) Write down the number of fields shown.

.... [1]

(c) Which field would be **most** suitable as the key field?

.... [1]

(d) State the **most** suitable data type for the Teaching group field.

.... [1]

(e) Which field has been used to sort the database in descending order?

.... [1]

(f) Tick **one** box in each row to show which type of validation check would be **most** suitable for each field.

Data	Range check	Format check	Invalid character check	Check digit
House				
Student number				
Teaching group				
Test score				

[4]

5 Tick **three** sensors which could be used in a microprocessor-controlled greenhouse.

Sensor	✓
Humidity	
Light	
Rain	
Sound	
Temperature	
Wind	

[3]

6 A small business has decided to employ a systems analyst to help them update their computer system.

(a) The systems analyst must look at the existing system to see what will be required in the new system.

Identify **three** methods that the systems analyst could use to research the existing system.

Method 1 ....

Method 2 ....

Method 3 ....

[3]

(b) When the systems analyst has finished analysing the existing system she will need to design the new system.

Identify **three** items that will need to be designed.

Item 1..

Item 2..

Item 3..

[3]

(c) After the system has been analysed and designed it will be implemented.

Describe the following methods of implementation.

(i) Parallel running ....

....

....

.... **[2]**

(ii) Direct changeover ....

....

....

.... **[2]**

7 Tick **four** requirements of the Data Protection Act.

Requirement	✓
Individuals have a right to view the information held about them.	
Personal data shall be accurate and, where necessary, kept up to date.	
Personal data shall be adequate, relevant and not excessive in relation to the purpose or purposes for which they are processed.	
Personal data shall be kept for 100 years.	
Personal data shall be obtained for any purpose the data holder feels is necessary.	
Personal data shall be processed fairly and lawfully.	
Personal data shall be processed without considering the rights of data subjects.	

[4]

Turn over

8 Describe how each of the following methods are used to verify data.

(a) Double entry ....

....

....

.... **[2]**

(b) Visual checking ....

....

....

.... **[2]**

9 Many car production lines use robots.

(a) Tick **three advantages** of using robots instead of humans.

	✓
Cars produced by robots are always perfect	
Robots can work 24 hours a day, 7 days a week	
Robots do not need maintaining	
Robots do not need paying	
Robots never break down	
The finished product is more consistent	

[3]

(b) Tick **three disadvantages** of using robots instead of humans.

	✓
Humans are more accurate than robots	
Humans are quicker than robots	
Humans need to take breaks	
Robots are expensive to buy and set up	
Robots are not adaptable to a sudden change of situation	
Wrong programming can mean several cars are wrongly produced before the situation is noticed	

[3]

10 A teacher has asked her students to produce a multimedia presentation about volcanoes.
Explain how multimedia features, **not** available in a hard copy presentation, could be used to enhance the presentation.

....

....

....

....

....

....

....

....

....

.... **[6]**

11 A large supermarket chain has introduced online shopping.
For each type of job given below describe how the workers might be affected.

Checkout operator ....

....

....

....

Manager ....

....

....

....

IT staff ....

....

....

.... **[6]**

PLEASE DO NOT WRITE ON THIS PAGE