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**OXFORD CAMBRIDGE AND RSA EXAMINATIONS
GENERAL CERTIFICATE OF SECONDARY EDUCATION**

2359/02

**INFORMATION AND COMMUNICATION
TECHNOLOGY**

Paper 3 (Higher Tier)

TUESDAY 18 JANUARY 2011: Morning

DURATION: 1 hour 15 minutes

SUITABLE FOR VISUALLY IMPAIRED CANDIDATES

Candidates answer on the question paper.

OCR SUPPLIED MATERIALS:

None

OTHER MATERIALS REQUIRED:

None

READ INSTRUCTIONS OVERLEAF

INSTRUCTIONS TO CANDIDATES

- **Write your name, centre number and candidate number in the boxes on the first page. Please write clearly and in capital letters.**
- **Use black ink. Pencil may be used for graphs and diagrams only.**
- **Read each question carefully. Make sure you know what you have to do before starting your answer.**
- **Write your answer to each question in the space provided. Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).**
- **Answer ALL the questions.**

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.**

1 A book is borrowed from a school library. The librarian asks the borrower to place their thumb against a thumbprint reader connected to a computer system.

(a) Describe how the computer system uses the thumbprint data. [2]

(b) Give TWO alternative methods, other than typing or using thumbprints, which would be suitable for entering the details of the borrower. [2]

Method 1 _____

Method 2 _____

(c) Give TWO benefits of using thumbprints rather than other methods. [2]

Benefit 1 _____

Benefit 2 _____

2 Tick whether each of the following statements about verification is true or false. [4]

TRUE (✓)	FALSE (✓)	
		The double entry method requires the computer to compare the different versions
		Verification checks that data is copied correctly
		Verification makes sure that data is correct
		Visual checking requires the data on the screen to be read

3 A large organisation which manufactures cars on a production line uses robots to perform certain tasks.

(a) Give THREE benefits to the organisation of using robots. [3]

1 _____

2 _____

3 _____

(b) Give THREE drawbacks of using robots. [3]

1 _____

2 _____

3 _____

4 Tick whether the following statements are true of star networks or ring networks. [4]

STAR (✓)	RING (✓)	
		Each computer is directly connected to two other computers
		If one computer fails the whole network crashes
		The network uses more cabling
		There is less disruption to the network when adding another computer

5 Before creating a database the file structure has to be designed. The design may include codes to be used in certain fields.

Explain why data is coded.

[4]

- 6 (a) A computer system is used to control the growing conditions in a greenhouse.**

Name TWO sensors that will be needed in this system.

[2]

1 _____

2 _____

- (b) For ONE of these sensors describe how the computer will use feedback to control the growing conditions.**

[4]

7 In an examination paper students can gain a maximum of 100 marks. Negative marks are never awarded. A teacher needs to test a new database for recording students' marks.

Design a set of test data that could be used and explain your choice of data.

[6]

8 Describe how an expert system is used by a doctor to diagnose illnesses in a patient. [4]

9 An outbreak of flu is causing problems for people over 60. The doctor wishes to send out personalised letters to his patients who are in this age group.

Describe how the doctor would use mail merge to prepare the letters.

[6]

10 An ICT teacher has produced a new database system for the school library. This includes some user documentation for the librarian.

Describe the items that you would expect to see in this documentation. [6]

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PLEASE TURN OVER FOR QUESTION 11

11 A local youth club wants to encourage teenagers with disabilities to become members. A student has been asked to produce a way of advertising the club.

He needs to choose between:

- using a desktop publishing package to create a magazine to distribute to every household in the neighbourhood**
- creating a presentation to be shown in the local library.**

Discuss the advantages and disadvantages of each method.

[8]



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