

OXFORD CAMBRIDGE AND RSA EXAMINATIONS

Advanced GCE

COMPUTING

Integrated Information Systems

2511

Monday

24 JANUARY 2005

Morning

1 hour 30 minutes

Candidate Name	Centre Number	Candidate Number												
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TIME 1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES

- Write your name in the space above.
- Write your Centre number and candidate number in the boxes above.
- Answer **all** the questions.
- Read each question carefully and make sure you know what you have to do before starting your answer.
- If you run out of space for an answer, continue on the spare page at the back of the booklet.
- If you use this spare page, you must write the question number next to your answer. You can also use the spare page for rough work.

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 90 (86 + 4 written communication).
- You will be awarded marks for the quality of written communication where an answer requires a piece of extended writing.
- No marks will be awarded for using brand names of software packages or hardware.

FOR EXAMINER'S USE	
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2	
3	
4	
5	
6	
WC	
TOTAL	

This question paper consists of 11 printed pages and 1 lined page.

A chain of hairdressing salons obtains shampoos, hair conditioners and other products from a single supplier.

1 Each salon completes an optical mark recognition (OMR) order form every month. The order form is sent to the supplier by post for processing.

(a) Describe how OMR is used in this situation.

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.....[3]

(b) Describe how the order forms could be processed using off-line processing.

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.....[2]

(c) Describe how the order forms could be processed using on-line processing.

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.....[2]

(d) The supplier is considering alternative methods of accepting orders.

Explain how a salon manager could use a digital telephone to input an order directly into the system.

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.....[4]

2 The supplier uses a computerised stock control system in its warehouse.

(a) Explain how bar codes are used to update stock levels in the system.

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.....[3]

The stock control system maintains a file containing details of all items currently stored in the warehouse. Two of the fields in this file are **current_stock_level** and **reorder_level**.

(b) Explain how these fields can be used to ensure that a salon's order can be met.

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(c) (i) Explain why it is desirable to keep as little stock as possible in the warehouse.

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(ii) Explain how a computerised system can be used to keep the level of stock in the warehouse as low as possible.

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.....[3]

3 The supplier has an administration centre that uses a local area network (LAN).

(a) Explain the term *computer network*.

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.....[3]

(b) Give **three** reasons why a LAN is appropriate in the administration centre.

1
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2
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3
.....[3]

(c) Two items of hardware used on a network are bridges and modems. Explain the purpose of each.

Bridge
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.....
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Modem
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.....[4]

4 The supplier appoints a team of consultants, led by a project manager, to develop a new computer system.

(a) State **four** tasks performed by a project manager.

- 1
- 2
- 3
- 4[4]

(b) Describe how software can be used to assist the work of the project manager.

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The consultants propose to design the new system using the Structured Systems Analysis and Design Methodology (SSADM).

(c) Describe **one** advantage and **one** disadvantage of using SSADM.

Advantage

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Disadvantage

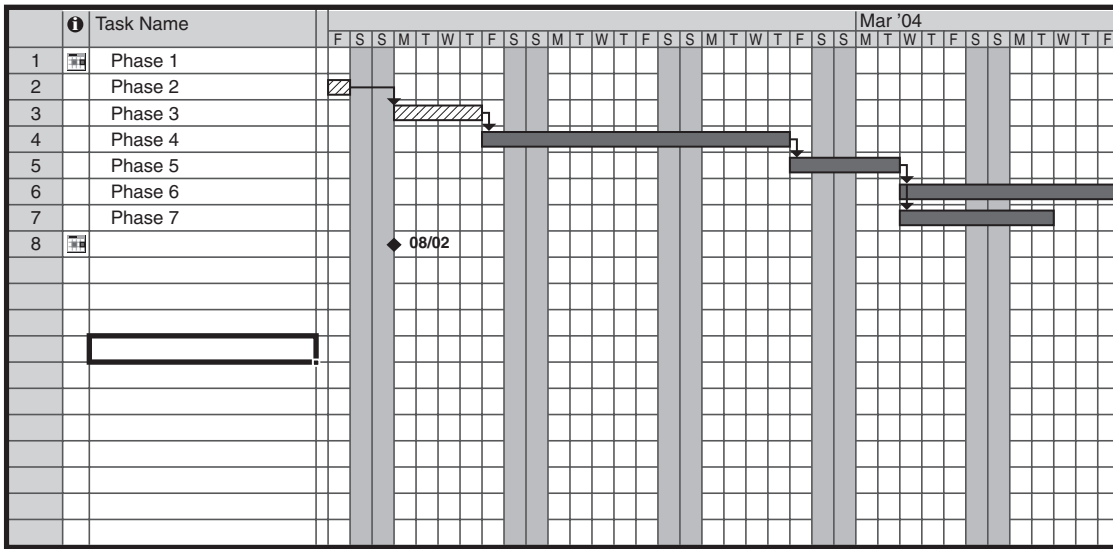
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(d) Consider the following diagram.



(i) What name is given to this type of diagram?

.....[1]

(ii) State **two** purposes of such a diagram.

1

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2

.....[2]

(iii) State **one** other project management software tool.

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.....[1]

5 In the supplier's manufacturing plant, bottles travel along a conveyor belt to be placed in boxes.

An employee visually checks each bottle to ensure that

- the bottle has been properly filled
- the bottle has a label
- the label has been positioned correctly.

If a bottle is substandard in any way, it is removed from the conveyor belt and placed in a bin.

The supplier proposes to automate this process.

(a) State **two** different types of sensor and for each, describe how it could be used in this process.

Type of sensor

Use

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Type of sensor

Use

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.....[6]

(b) Describe **two** ways in which actuators could be used in this process.

1

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2

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.....[6]

(c) State **three** advantages to the supplier of using an automated system.

- 1
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- 2
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- 3
-[3]

(d) Explain why a human presence will still be required in this case.

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-[2]

6 The supplier develops a web site to advertise and sell its products directly to the general public.

(a) State **two** advantages and **two** disadvantages of having a catalogue of these products on the web site rather than using a printed version.

Advantage 1

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Advantage 2

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Disadvantage 1

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Disadvantage 2

.....[4]

(b) Explain how hypertext linking could be used in developing the catalogue for the web site.

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- (c) Explain the importance of maintaining security on the web site from the point of view of the customers and the supplier.

Customer

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Supplier

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[6]

- (d) Describe **two** ways in which customer information transmitted to the web site can be protected from hackers.

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2

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[4]

If you use this lined page to complete the answer to any question, the question number must be clearly shown.

Dotted lines for writing answers.

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