



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
General Certificate of Education Ordinary Level

CANDIDATE
NAME

CENTRE
NUMBER

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COMPUTER STUDIES

7010/31

Paper 3 Alternative to Coursework

October/November 2011

1 hour 30 minutes

Candidates answer on the Question Paper.

No Additional Materials are required.

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.

Write in dark blue or black pen.

You may use a soft pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid.

DO NOT WRITE IN ANY BARCODES.

There is one compulsory question on this paper.

Each part must be answered in the space provided.

You are advised to spend at least 20 minutes reading the information at the start of question 1 since this information is needed to answer all the sections in this question.

The maximum number of marks is 60.

For Examiner's Use

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This document consists of **10** printed pages and **2** blank pages.



1 In this question you are asked to read about:

- an existing manual, paper-based ordering system in a furniture retailer,
- the computer-based semi-automatic ordering system that is intended to be introduced as a replacement.

You are given a description of both the existing and the intended new computerised scheme.

Description of the existing system

When a customer comes to the retailer and chooses from the showroom an item of furniture to purchase, the salesman asks the filing clerk to go to the filing cabinet where she would be able to locate the appropriate files containing all the necessary item details. The information stored on these paper files includes:

- item code
- description of item
- price of item
- delivery time
- details of the supplier

All transactions are currently carried out on paper and stored in files in a large filing cabinet.

The salesman then completes the paper order form for the customer. The customer pays for the item and the salesman gives one copy of the order to the customer, a second copy is given to the filing clerk. At the end of the day, the clerk processes all the orders, records the money taken and calculates the total number of each item to order. The clerk fills out and sends off paper order forms to the suppliers for all items ordered that day.

Description of the proposed computer-based system

The intention is to replace all the paperwork by introducing a computer-based database which contains the information described above, and automatically prints out the orders at the end of the day.

A systems analyst is to be employed to review the existing manual system. The analyst will be responsible for drawing up an action plan for the new computer-based system. This will then be designed, tested and implemented. All the necessary documentation will also be produced together with a full evaluation of the system performance 6 months after its introduction.

In the new system, when a customer has chosen an item of furniture to purchase, the salesman pulls up the following information on a computer screen:

FURNITURE ORDERING v3.2

Please select from the following options:

- **Beds**
- **Chairs**
- **Sofas**
- **Tables**
- **Wardrobes**

Once an option is chosen

- a selection of items is listed on the screen, (*There is also a picture of each one*)
- the customer identifies the item they want,
- the item of furniture is identified with a barcode (*which is the same as the item code*),
- the salesman selects the picture using a touch screen,
- all the information about the selected item of furniture is displayed on the screen,
- the salesman completes an order form on screen for the customer,
- the order details are stored,
- he prints out a copy to give to the customer,
- the number to order that day is updated on the database,
- the value of the daily takings is also automatically updated.

At the end of the day

- orders are automatically printed out for each supplier together with the name and address of that supplier,
- the number to order is reset to zero.

When items arrive

- the barcodes are read and the database automatically updated.

The following questions all refer to the above system:

- (a) What planning tools should the systems analyst use to ensure that the project is completed on time and to budget?

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.....
.....
..... [2]

- (b) Name **two** ways the systems analyst could gather information about the existing manual system.

Explain why each method was chosen to gather information and why it would be suitable for this manual system.

Method 1:

Explanation:

.....
.....
.....
.....

Method 2:

Explanation:

.....
.....
.....
.....
..... [8]

(c) State **two** items of hardware, other than a computer, that the analyst recommend for this application. Justify your choice for each item.

Item 1:

Reason:

.....

.....

.....

Item 2:

Reason:

.....

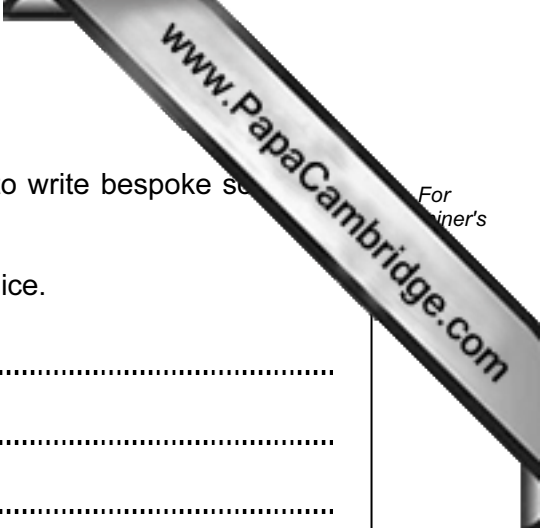
.....

..... [4]

(d) Draw a flowchart to show how the new computer-based system will work.

Include:

- what happens when a customer places an order,
- how an item of furniture is identified,
- how the orders for suppliers are produced,
- how a check is made on the daily money taken.



- (e) The systems analyst has decided to employ a programmer to write bespoke software for the new computer-based system.

Explain, with reasons, why the systems analyst made this choice.

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..... [3]

- (f) Describe a suitable test strategy for the new computer-based system.

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..... [4]

(g) The item code is always four digits e.g. 1234.

Give **three** examples of test data that could be used for the item code. Justify your choice for each example.

Example 1:

Reason:

.....

Example 2:

Reason:

.....

Example 3:

Reason:

..... [6]

(h) State **four** items that should be included in the user guide supplied for use with this new system. For each one explain why it should be included.

Item 1:

Reason:

.....

Item 2:

Reason:

.....

Item 3:

Reason:

.....

Item 4:

Reason:

..... [8]

(i) State **one** method that could be used to implement this new system. Describe the method and give **two** reasons why this method should be the method chosen for a computer-based furniture ordering system.

Method:

Description:

.....

.....

Reason 1:

.....

Reason 2:

..... [5]

(j) Describe **three** advantages in adopting the new computer-based system when compared to the paper-based system.

1

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2

.....

3

..... [3]

(k) Describe **two** limitations of adopting the new computer-based system when compared to the paper-based system.

1

.....

2

..... [2]

- (I) Now that the Furniture Showroom has all the information stored on a computer system, they have decided to advertise on the Internet. A website has been created to enable customers to obtain information and also order items from the website using their credit cards.

Use the space below to design a web page for this Furniture Showroom to allow customers to order items online.

