COMPUTER STUDIES **7010/03**

Paper 3 Alternative to Coursework
For Examination from 2011
SPECIMEN PAPER

1 hour 30 minutes

READ THESE INSTRUCTIONS FIRST

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.

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

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1 In this question you are asked to read about an existing manual, paper-based stock control system in a large garage. It is the intention that a computer-based semi-automatic stock control system is introduced as a replacement. You will be given a full description of both the present manual method and the intended new computerised scheme.

Description of the existing system

When a customer comes into the garage to buy a spare part for his car, the salesman asks a clerk to go to a filing cabinet where (s)he would be able to locate the appropriate files containing all the necessary part details. The information stored on these paper files includes:

- part number
- part description
- price of the part
- number of items in stock
- minimum re-order level
- details of the suppliers
- location of spare part in the warehouse

The salesman then goes to the warehouse to locate the part. The customer pays for the item and the salesman makes out an invoice and gives one copy to the customer and a second copy is given to a filing clerk. At the end of the day, the clerk processes all the invoices, records the money taken and updates the number of each item in stock. The clerk fills out and sends off the order forms for any items which are running low in number. All transactions are currently carried out on paper and stored in files in several large filing cabinets.

Description of the proposed computer-based system

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

A systems analyst is to be employed to review the existing manual method. 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 asks for a part, the salesman pulls up the following information on a computer screen:

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SELECTAPART SYSTEM V2.2

Please select from the following options:

 • Interior
 • Engine
 • Gearbox and transmission
 • Brakes
 • Suspension
 • Electric equipment
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Once a selection is made, a number of spare parts are listed on the screen together with a diagram of the part. The required part is then identified and the salesman *clicks on* the diagram using a mouse and all the information about the selected part is displayed on the screen.

The salesman then locates the spare part which is now identified with a bar code (which is the same as the part number). When sold, the bar code is read by a bar code reader and the number in stock is automatically checked and updated on the database. The value of the daily takings is also automatically updated.

When the minimum stock level for a part is reached, an order is automatically printed out together with the name and address of the supplier. When new stock arrives the bar codes are read and the database automatically updated.

The following questions all refer to the above system:

(a) Describe what tools exist to help the analyst draw up an action plan and ensure that the project is completed on time and to budget.

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.... [4]

(b) Name **three** ways the analyst could gather information about the existing manual system. Explain how each method would be used to gather information.

Method 1: ....

Explanation: ....

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Method 2: ....

Explanation: ....

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Method 3: ....

Explanation: ....

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.... [6]

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

Item 1: ....

Reason: ....

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Item 2: ....

Reason: ....

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(d) Draw a systems flow chart to show how the new computer-based system will work.
Include: what happens when a customer makes an enquiry, how a part is identified, how the database is updated when a part is sold, how new orders are produced and how a check is made on the daily money taken.

[8]

(e) In this application, would it be better to use existing software or arrange to have new software written? Give a justification for your answer.

Choice: ....

Reason for choice: ....

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

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(ii) Give **three** examples of test data that could be used. Justify your choice.

Example 1: ....

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Reason: ....

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Example 2: ....

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Reason: ....

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Example 3: ....

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Reason: ....

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.... [6]

(g) Describe what items should be included in the User Manual supplied with this new system.

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.... [6]

(h) State **two** methods that could be used to implement this new system. Give a reason for each method chosen.

Method 1 ....

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Reason for choice ....

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Method 2 ....

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Reason for choice ....

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.... [6]

(i) Describe how the effectiveness of the new system could be evaluated.

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

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(k) Now that the garage has all their spare parts 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 garage to allow customers to order spare parts.

[6]

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