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Oxford Cambridge and RSA

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A2 GCE

APPLIED INFORMATION AND COMMUNICATION TECHNOLOGY

G054/01/IC Software development

INSTRUCTIONS FOR CANDIDATES

JUNE 2017



INFORMATION FOR CANDIDATES

- This document consists of **8** pages.

NOTICE TO CANDIDATES

The work you submit for these pre-release tasks **must** be your own.

- If you copy from someone else or allow another candidate to copy from you, or if you cheat in any other way, you may be **disqualified** from at least the subject concerned.
 - You **must** always keep your work secure and confidential while you are preparing it. **If it is stored on a computer network, keep your password secure. When printing work, collect all copies from the printer and destroy the copies you don't need.**
 - Any materials (e.g. books, information from the internet you have used to help complete this work, etc.) **must** be clearly acknowledged in the work itself.
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- All work **must** be submitted to your teacher once completed. Ensure you include your name, candidate number and centre number on all pages and that each page is hole punched in the top left-hand corner and secured with a treasury tag.
 - **You must not submit any materials other than your response to the pre-release tasks.**
 - When you hand in your completed tasks, you will be required to sign that you have understood and followed the regulations by completing a Candidate Authentication Statement.
 - Your work will be returned to you at the start of the exam, in the exam room. At the end of the exam, you **must** attach **all** tasks to your question paper using the treasury tag.

ALWAYS REMEMBER:

YOUR WORK MUST BE YOUR OWN

PRE-RELEASE TASKS – INSTRUCTIONS FOR CANDIDATES

Read the attached case study and these instructions carefully, then carry out the tasks detailed below. There are two types of task.

In Task 1 you will produce notes that will help you to answer questions in the examination for this unit. The other tasks will be marked and will contribute up to 30 of the 100 marks available for this unit.

You will need your completed tasks when you take the examination for this unit.

The work produced in response to the pre-release tasks **must** be submitted to your teacher when it is completed. The work **must** be presented as a hard copy.

It is not acceptable for you to copy large parts of material from other sources as the tasks require you to apply your knowledge to the case study. Any books, information leaflets or other materials (e.g. videos, software packages or information from the internet) which you have used to help you complete this work, **must** be clearly acknowledged in the work itself. To present material copied from books or other sources without acknowledgement will be regarded as deliberate deception.

You **must not** submit any material other than your response to the pre-release tasks.

The work **must** be collated so that it is presented in task order.

Each page of the work **must** be marked clearly with your name, candidate number, centre number and task number.

When you have completed the tasks, you **must** sign and date a Candidate Authentication Statement. You **must** then ask your teacher to sign to confirm that the work is your own.

Task 1

Produce the following for The Wendy House Place:

- a feasibility study
 - the purpose of the system
 - functional and non-functional requirements
 - process constraints
 - a list of deficiencies of the current system
 - the user requirements of the new system
 - recommendations for the development of the new system
- notes on investigation methods
- recommendations for security and training methods.

Task 2

Develop a systems flowchart for the current system used at The Wendy House Place (see **Appendix 1**). The process starts when a customer contacts The Wendy House Place and ends when The Wendy House Place receives the final payment.

Briefly evaluate the methods you used to develop this systems flowchart.

[15]

Task 3

Produce Structured English for calculating the discounts when a customer orders accessories at the same time as placing an order for a Wendy house. [10]

Task 4

Design the user interface for the workshop staff to input details of stock used. [5]

The Wendy House Place

The Wendy House Place is a small business based in Cheshire. The main function of the business is to build and deliver custom-built, wooden Wendy houses to its customers. The Wendy House Place also supplies accessories to enable customers to personalise the interior of their Wendy houses. The accessories include chairs, tables and curtains.

The head office of The Wendy House Place is on a small industrial estate in Frodsham. The owner and administrative staff are based in the head office. The Wendy houses are built in a workshop on the same site. There is an area in the workshop to store the wood used to build the Wendy houses. The delivery vehicles are also stored on the site.

The Wendy houses are custom built, based on specifications provided by the customer. The specifications include the width, depth and height of the Wendy house, and the position of the door and windows.

If a customer orders accessories at the same time as placing their order for a Wendy house then a discount is given. The amount of discount is based on the number of accessories ordered. The amount of discount given is shown in **Table 1**.

Number of accessories	Discount given (%)
1	5.0
2	7.5
3	10.0
4 or more	12.5

Table 1

The Wendy House Place offers a delivery service to its customers. The delivery charge depends on the number of miles between The Wendy House Place and the delivery address. If a customer wants their Wendy house and any accessories delivered, the delivery charge is added to the cost of the order after any discounts are applied. The customer can choose to collect their order from the workshop, rather than having it delivered. The Wendy House Place also offers an installation service to customers. The cost of this service is £75.

Customers can just order accessories. The accessories are posted to the customer. The postage and packing cost depends on how many accessories are ordered.

The customer must pay a deposit of 25% of the total cost when they place their order. The outstanding balance must be paid when the order has been collected or delivered.

When a customer has placed an order and paid a deposit, details of the order are passed to the workshop manager. Order details are recorded in an order progress logbook. The purpose of this logbook is to track the progress of the order. When the Wendy house and any accessories have been completed, the workshop manager informs the administration staff.

There are three computers at head office. One computer, a tablet, is used by the owner. This computer is used for keeping staff personnel records and recording the company accounts.

The other two computers are desktop computers and are used by the administration staff.

One of these computers is used to keep records of all orders placed by customers, including:

- details of any accessories
- delivery details
- if installation is required.

The other computer is used to record the deposits and final payments made by customers. Orders and payments to suppliers are also recorded on this computer.

The computers in head office have security software installed but this is not up to date and is rarely implemented.

As each order is completed, the details of the order, including the deposit paid, are recorded on the customer accounts system. An invoice is produced for the outstanding balance. This is sent to the workshop to be given to the customer when the Wendy house, and any accessories, are either collected or delivered. When the final payment is received from the customer, this is recorded on the customer accounts system.

Workshop staff keep manual stock records of the wood and other materials they use to make the Wendy houses and accessories. The workshop manager has a laptop which is kept in the workshop office. The manual stock records should be transferred to this laptop every Tuesday and Thursday but, due to time pressures, this does not always happen.

This means that, when the stock requirements are passed to the administration staff, they are not always accurate. This has led to incorrect stock orders being sent to suppliers. This in turn has led to problems such as Wendy houses and accessories being delivered late because the stock was not available to build them.

The vendor of the operating system on the workshop laptop is different from the vendor of the operating system on the computers used in head office. In addition, the applications software packages are from the same vendor but are all different versions. This has led to compatibility issues when data has been shared between the computers.

The owner of The Wendy House Place has requested that the software, operating systems and applications software used on all computers are standardised. The owner has requested that the vendor of the software is the one currently used in the head office, although it is accepted that an updated version may need to be installed.

There are other problems that need to be solved by the new system. The main ones are:

- supplier details are held manually
- customer details are not being kept up-to-date
- information relating to the progress of each order is not always correct.

The owner of The Wendy House Place would like to be able to produce reports detailing:

- the number of each accessory sold each month
- the amount of revenue generated by each type of accessory
- an up-to-date list of the number of Wendy houses built and delivered for each month of the year.

Workshop staff, who will be using the new system, have asked that the stock system shows the re-order level of each stock item and provides a message when items need to be re-ordered. A report, listing the stock items that need to be re-ordered, should be generated each day. This report should be automatically sent to the administration staff.

The workshop staff have also asked that the interface of the stock system has large buttons and drop-down menus. As some of the workshop staff have limited IT skills, helpful user messages should be shown.

The administration staff have asked that supplier details, and the stock they supply, are accessible using a unique supplier number. It should also be possible to use this unique supplier number to record details of orders and payments to suppliers. User errors should be limited through the automatic features of the system.

The new system must be implemented over a weekend when The Wendy House Place is closed. This is to ensure minimum disruption to the business.

In future it is hoped that The Wendy House Place would have a website. This would advertise the business and enable customers to place orders on-line.

Appendix 1

When a customer places an order, the following procedures take place within The Wendy House Place:

- The customer tells the administration staff their contact details, the specifications of the Wendy house, any accessories required and if the Wendy house is to be delivered and installed.
- A member of the administration staff enters these details onto the order system.
- The cost is worked out, the customer is given an order number and the customer pays a deposit.
- Information about the order is sent to the workshop.
- Details about the order are manually entered in the order progress logbook.
- When the order is complete, details are sent to the administration staff.
- An invoice for the outstanding balance is created.
- The invoice is sent to the workshop to be given to the customer when the Wendy house is collected or delivered.
- The customer pays the outstanding balance.
- Details of the payment are recorded by the administration staff onto the customer accounts system.
- A receipt showing full and final payment is sent to the customer.

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