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Oxford Cambridge and RSA

**Monday 11 June 2018 – Morning****A2 GCE INFORMATION AND COMMUNICATION TECHNOLOGY****G063/01** ICT Systems, Applications and Implications

Candidates answer on the Question Paper.

**OCR supplied materials:**

None

**Other materials required:**

None

**Duration:** 2 hours

Candidate forename		Candidate surname	
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Centre number						Candidate number				
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**INSTRUCTIONS TO CANDIDATES**

- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer **all** the questions.
- 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).
- Do **not** write in the barcodes.

**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 **120**.
- Your quality of written communication is assessed in the question marked with an asterisk (\*).
- This document consists of **20** pages. Any blank pages are indicated.

SECTION A

Answer **all** the questions.

1 (i) Identify **two** characteristics of a multi-tasking operating system.

1 .....

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2 .....

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[2]

(ii) Identify **two** characteristics of a single-user operating system.

1 .....

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2 .....

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[2]

2 Natural language interfaces are becoming more common.

Explain **two** limitations of using a natural language interface.

1 .....

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2 .....

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[4]

3

3 The first two steps of the Model Human Processor are:

1. A user sees a message box on the screen.
2. This visual stimulus is received by the visual processor.

Describe **two** further steps.

1 .....

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2 .....

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[4]

4 Describe how a call made from a mobile phone in London is connected to a mobile phone in Birmingham.

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[4]





7 A national chain of hotels has a distributed database that contains records of staff, customers and bookings. One method of distributing the database is horizontal partitioning.

(a) Identify and describe **two other** methods that could be used to distribute the database.

1 .....

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2 .....

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[6]

(b) Describe what is meant by data integrity in a database.

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[2]



8

(b) A systems analyst has been employed to investigate how bookings are taken. The following was observed:

- customers can ring Ambridge Manor reception and a receptionist will answer. Booking details are entered into the system to check if there is availability. If a room is available a booking is recorded;
- customers can complete a web-based booking form on Ambridge Manor's website. When bookings are submitted they are processed to see if there is availability. If a room is available a booking is recorded;
- if a booking has been recorded a confirmation letter is created and sent to the customer.

Draw a Data Flow Diagram (DFD) to represent the information flows.

[5]





(g) The new booking system may need corrective maintenance once it has been installed.

Explain why corrective maintenance may be required.

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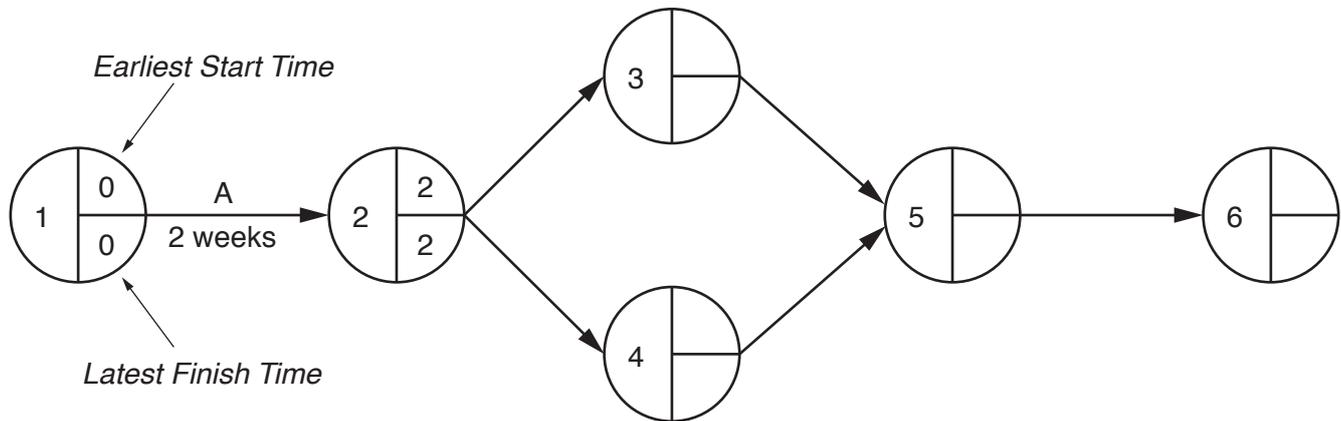
.....

..... [2]

10 Ambridge Manor is considering whether or not to install WiFi access for guests. It has decided to conduct some market research.

Task	Description	Order	Duration
A	Preliminary discussion	Completed first	2 weeks
B	Prepare web-hosted questionnaire	Start when A is complete	3 weeks
C	Prepare email survey	Start when A is complete	2 weeks
D	Activate web-hosted questionnaire and wait for replies	Start when B is complete	2 weeks
E	Send email survey and wait for replies	Start when C is complete	4 weeks
F	Analyse results	Start when D and E are complete	3 weeks

(a) Use the information in the table above to complete the Critical Path Analysis (CPA) diagram. [3]



(b) Identify the task order that represents the critical path.

..... [1]

(c) Identify the shortest length of time it can take to complete the research.

..... [1]

11 Ambridge Manor has decided to improve the connectivity available to both staff and guests. It has installed a leased line broadband connection. It plans to run two separate WiFi networks, one for staff and one for guests.

(a) Describe **one** advantage and **two** disadvantages to Ambridge Manor of installing a leased line.

Advantage .....

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Disadvantage 1 .....

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Disadvantage 2 .....

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[6]



(d) Compare the characteristics of the staff WiFi intranet and the guest WiFi internet connection.

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..... [4]

(e) Ambridge Manor's staff have company email accounts which they use to send and receive emails.

Describe **two other** facilities of email software that will assist productive communication between staff within the business.

1 .....

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2 .....

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..... [4]

12 Ambridge Manor is rebranding its house style. This will be applied to letters to customers, presentations and the website.

Describe **three different** ways that the house style can be efficiently applied.

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2 .....

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3 .....

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[6]





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