

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	
-----------------------	--	----------------------	--

Centre number						Candidate number				
---------------	--	--	--	--	--	------------------	--	--	--	--

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

.....

2

.....

[2]

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

1

.....

2

.....

[2]

2 Natural language interfaces are becoming more common.

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

1

.....

.....

.....

2

.....

.....

.....

[4]

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

.....

.....

.....

.....

2

.....

.....

.....

[4]

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

.....

.....

.....

.....

.....

.....

.....

.....

[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

.....

.....

.....

.....

.....

.....

2

.....

.....

.....

.....

.....

.....

[6]

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

.....

.....

.....

[2]

(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]

- (c) The designer will consider a number of factors relating to the user of the booking system when designing the interface for it. One factor that will be considered is the user’s attention.

Identify and describe **two other** factors that should be considered.

1

.....

.....

.....

.....

.....

.....

2

.....

.....

.....

.....

.....

.....

[6]

- (d) Identify **three** responsibilities of a programmer who works on the implementation of the new booking system.

1

.....

2

.....

3

.....

[3]

(e) The new booking system will include a Management Information System (MIS).

Explain **two advantages** to Ambridge Manor of having a MIS.

1

.....

.....

.....

.....

.....

.....

.....

.....

[4]

(f) Ambridge Manor will consider a number of factors when managing the process of change from the old to the new booking system.

Identify and describe **two** factors that should be considered.

1

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

[6]

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

Explain why corrective maintenance may be required.

.....

.....

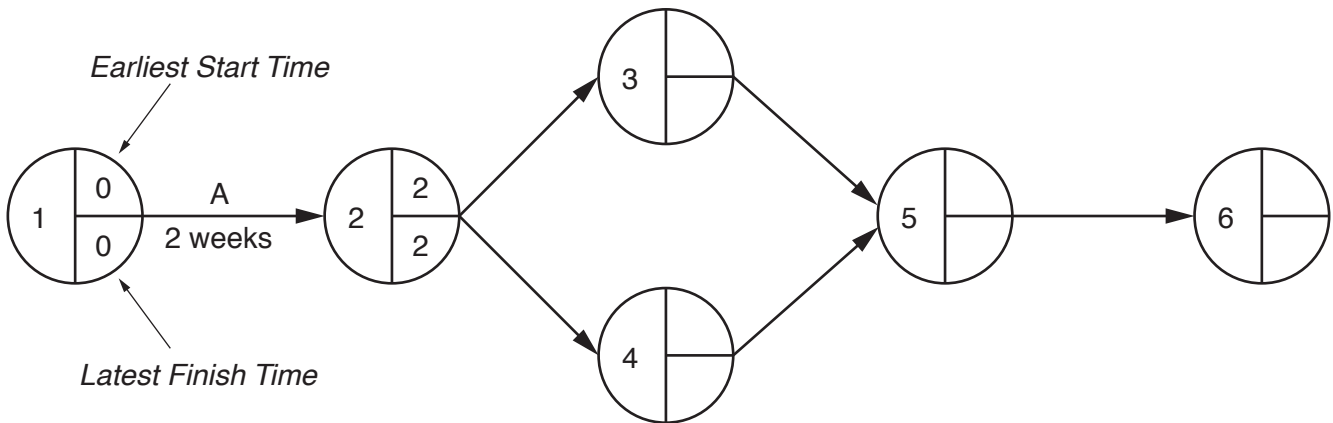
.....

..... [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

.....

.....

.....

Disadvantage 1

.....

.....

.....

Disadvantage 2

.....

.....

.....

[6]

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.

1

.....

.....

.....

2

.....

.....

.....

3

.....

.....

.....

[6]

19
BLANK PAGE

PLEASE DO NOT WRITE ON THIS PAGE

PLEASE DO NOT WRITE ON THIS PAGE



Copyright Information

OCR is committed to seeking permission to reproduce all third-party content that it uses in its assessment materials. OCR has attempted to identify and contact all copyright holders whose work is used in this paper. To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced in the OCR Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download from our public website (www.ocr.org.uk) after the live examination series. If OCR has unwittingly failed to correctly acknowledge or clear any third-party content in this assessment material, OCR will be happy to correct its mistake at the earliest possible opportunity.

For queries or further information please contact the Copyright Team, First Floor, 9 Hills Road, Cambridge CB2 1GE.

OCR is part of the Cambridge Assessment Group; Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.