

<b>Candidate Forename</b>		<b>Candidate Surname</b>	
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<b>Centre Number</b>						<b>Candidate Number</b>				
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**OXFORD CAMBRIDGE AND RSA EXAMINATIONS  
ADVANCED GCE**

**G063**

**INFORMATION AND COMMUNICATION  
TECHNOLOGY**

**Systems, Applications and Implications**

**MONDAY 14 JUNE 2010: Afternoon**

**DURATION: 2 hours**

**SUITABLE FOR VISUALLY IMPAIRED CANDIDATES**

**Candidates answer on the Question Paper**

**OCR SUPPLIED MATERIALS:**

**None**

**OTHER MATERIALS REQUIRED:**

**None**

**READ INSTRUCTIONS OVERLEAF**

## **INSTRUCTIONS TO CANDIDATES**

- **Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes on the first page.**
- **Use black ink. Pencil may be used for graphs and diagrams only.**
- **Read each question carefully and make sure that you know what you have to do before starting your answer.**
- **Answer ALL the questions.**
- **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).**

## **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, of which marks are allocated to the assessment of the quality of written communication where an answer requires a piece of extended writing.**
- **No marks will be awarded for using brand names of software packages or hardware.**

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## SECTION A

Attempt ALL the questions in this section.

- 1 (a) Describe prototyping as a method of software development.

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[2]

- (b) Explain the importance of test plans in the systems cycle.

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[4]

**2 (a) Identify THREE characteristics of a local area network (LAN).**

**Characteristic 1** \_\_\_\_\_

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**Characteristic 2** \_\_\_\_\_

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**Characteristic 3** \_\_\_\_\_

\_\_\_\_\_ **[3]**

**(b) Compare an intranet to an extranet.**

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\_\_\_\_\_ **[3]**

**3 (a) Define the term bandwidth.**

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[2]

**(b) Describe how different communication media affect the bandwidth available when transferring files.**

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[4]



**4 (a) Describe what is meant by an expert system.**

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**[3]**

**(b) Give TWO reasons why the operator of a medical helpline would use a system which relies on rules and probabilities to give advice.**

**Reason 1** \_\_\_\_\_

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**Reason 2** \_\_\_\_\_

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**[2]**



**5 A medical centre has a code of conduct relating to the use of the computer system by its staff.**

**Describe TWO advantages to the centre of having its staff abide by its code of conduct.**

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**[4]**

**6 Explain the need for adaptive, perfective and corrective maintenance of systems.**

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**[6]**

## SECTION B

Attempt ALL the questions in this section.

### QUESTIONS 7-12 CONCERN A HOTEL CHAIN IN THE UK.

The directors of a hotel chain have reviewed the systems currently in place across all the hotels.

- 7 (a) Describe critical path analysis as a tool for project planning.

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[4]

**(b) As guests check-in, they are currently registered on a database.**

**Three of the entities in the database are CUSTOMER, BOOKING and ROOM.**

**Draw an entity relationship diagram for this part of the database and state where a foreign key would be found.**

**[4]**

- 8 (a) The user interface of the database will need to be updated.

**Describe the user interface design tool known as the Model Human Processor.**

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[2]

- (b) Describe how the model can be applied to the design of the user interface.

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[4]

**(c) Explain the importance of using the following in the design of tailored data entry screens.**

**feedback** \_\_\_\_\_

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**consistency** \_\_\_\_\_

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**colours** \_\_\_\_\_

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**[6]**

**(d) Explain how the following affect the design of an interface.**

**(i) Attention**

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**[2]**

**(ii) Memory**

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**[2]**

9 (a) The database is distributed across the hotel chain.

Describe **THREE** different approaches to the distribution of databases.

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[6]



**(b) The directors are concerned about the security of the hotel databases.**

**Describe THREE security issues that are associated with distributed databases.**

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**[6]**

**(c) Describe FOUR recommendations that you would make to the directors of the hotel chain to make the distributed databases more secure.**

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**[8]**

**(d) State what is meant by authentication.**

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[1]

**10 (a) Give FOUR factors affecting decisions which must be made when upgrading software.**

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[4]

**(b) Describe parallel installation.**

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[2]

**(c) Give TWO DISADVANTAGES of this method of installation.**

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**[2]**







**12 Discuss hardware and software developments that might change the way hotels function in the future.**

**The quality of written communication will be assessed in your answer.**

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