**OXFORD CAMBRIDGE AND RSA EXAMINATIONS**
**AS GCE**

# G061/01

# INFORMATION AND COMMUNICATION TECHNOLOGY

## Information, Systems and Applications

**THURSDAY 17 JANUARY 2013: Morning**
**DURATION: 2 hours**
**plus your additional time allowance**

**MODIFIED ENLARGED 18pt**

| Candidate forename | | Candidate surname | |
|---|---|---|---|

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

**Candidates answer on the Question Paper.**

**OCR SUPPLIED MATERIALS:**

**A separate Data Booklet**

**OTHER MATERIALS REQUIRED:**

**None**

**READ INSTRUCTIONS OVERLEAF**

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## INSTRUCTIONS TO CANDIDATES

- **Write your name, centre number and candidate number in the boxes on the first page. 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).**

## 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. These questions are marked with an asterisk (*).**

**BLANK PAGE**

**EJO is an art gallery that displays and sells the work of artists.**

**Each piece of art in the gallery is labelled with details about the work and the artist. The label also contains data.**

**1 (a) Show, using an example related to EJO, how data can become information through the application of context, structure and meaning.**

**Data** _____

_____

**Context**_____

_____

**Structure** _____

_____

**Meaning** _____

_____

**[4 marks]**

**(b) The labels contain text and pictures to convey information to visitors.**

**Identify TWO other methods that could be used to convey information within the gallery, and for each give an advantage of its use.**

**1** _____

_____

_____

**Advantage** _____

_____

_____

**2** _____

_____

_____

**Advantage** _____

_____

_____

**[4 marks]**

**End of Question 1.**

**EJO provides guided tours of the art gallery.**

**2 EJO uses a computerised booking system to allow visitors to book guided tours.**

**(a) Describe THREE characteristics of a computerised booking system.**

**1** _____

_____

_____

_____

_____

_____

**2** _____

_____

_____

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_____

_____

3 _____

_____

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_____

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_____

**[6 marks]**

**Look at the database for Question 2(b) in the separate Data Booklet.**

**(b) State the most appropriate data type for the following fields in the tour database.**

**Number in Party** _____

_____

**Paid?** _____

_____

**[2 marks]**

**(c) Give TWO advantages of using the autonumber data type for the TourID.**

**1** _____

_____

_____

**2** _____

_____

_____

**[2 marks]**

**(d) Describe the following terms used in relational databases.**

**Foreign key** _____

_____

_____

_____

_____

_____

**Table** _____

_____

_____

_____

_____

_____

**[4 marks]**

**(e) Describe the role of the one to many relationship in a relational database.**

_____

_____

_____

_____

_____

_____

**[2 marks]**

**End of Question 2.**

**3 EJO is considering producing leaflets so that visitors can tour the gallery without being accompanied by a guide.**

**(a) One source of information for the leaflet could be the internet.**

**Explain TWO advantages of using the internet as a source.**

**1** _____

_____

_____

_____

_____

_____

**2** _____

_____

_____

_____

_____

_____

**[4 marks]**

**(b) Proof reading is one method of verification.**

**Show, using an example, how proof reading could still result in errors in the leaflet.**

_____

_____

_____

_____

_____

_____ **[2 marks]**

**(c) (i) Describe the following characteristics of documents that could be in the leaflet.**

**Footnote** _____

_____

_____

_____

_____

_____

**Section** _____

_____

_____

_____

_____

_____

**Paragraph** _____

_____

_____

_____

_____

_____

**[6 marks]**

**(ii) For each of the following, give an example of how it could be used in the leaflet.**

**Footnote** _____

_____

_____

**Section** _____

_____

_____

**Paragraph** _____

_____

_____

**[3 marks]**

**(d) EJO uses computers to create the text for the leaflets.**

**For each of the following, give an example of a cost incurred by EJO in producing the leaflet.**

**Software** _____

_____

_____

**Consumable** _____

_____

_____

**Personnel** _____

_____

_____

**[3 marks]**

**End of Question 3.**

**4 EJO is investigating output devices that will produce high quality maps of the gallery for visitors to carry.**

**Identify an appropriate output device for performing the above task, justifying your choice of device.**

**Output Device** _____

_____ **[1 mark]**

**Justification**

_____

_____

_____

_____

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_____

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_____

_____

_____

_____

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_____ **[6 marks]**

**End of Question 4.**

**5 EJO has produced a slideshow advertising the gallery. The slideshow will be displayed in a local tourist centre.**

**(a) Compare the use of automatic and manual transition in the slideshow.**

_____

_____

_____

_____

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_____ **[4 marks]**

**(b) Navigation in a presentation can be non-linear or hierarchical.**

**One of the presentations used by EJO is given by a speaker to a group of visitors. The presentation is given to each tour by different employees during the day.**

**Describe TWO advantages of using hierarchical navigation in this presentation.**

**1** _____

_____

_____

_____

_____

_____

**2** _____

_____

_____

_____

_____

_____

**[4 marks]**

**(c) One of the tour guides from EJO is giving a presentation to a local art society. They will be using printed acetate.**

**Describe TWO DISADVANTAGES of delivering a presentation using printed acetate.**

**1** _____

_____

_____

_____

_____

_____

**2** _____

_____

_____

_____

_____

_____

**[4 marks]**

**End of Question 5.**

**6 EJO is having software created to catalogue the art work.**

**The software will have a form interface.**

**(a) Describe TWO characteristics of a form interface.**

**1** _____

_____

_____

_____

_____

_____

**2** _____

_____

_____

_____

_____

_____

_____

**[4 marks]**

**(b) The interface will contain form controls.**

**Describe the following form controls and for each, give an appropriate use.**

**Spinner** _____

_____

_____

_____

_____

_____ **[2 marks]**

**Use** _____

_____

_____ **[1 mark]**

**Option Button** _____

_____

_____

_____

_____

_____ **[2 marks]**

**Use** _____

_____

_____ **[1 mark]**

**(c) EJO uses a single piece of applications software to manage emails and store appointments, meetings and notes.**

**Justify the use of this single piece of applications software for these tasks.**

_____

_____

_____ **[6 marks]**

**End of Question 6.**

**7 EJO has started to use style sheets.**

**Describe the purpose of a style sheet.**

_____

_____

_____

_____

_____

_____ **[2 marks]**

**End of Question 7.**

**8 EJO is considering expanding their building.**

**(a) Explain TWO advantages of using modelling software to create a model of the expansion.**

**1** _____

_____

_____

_____

_____

_____

**2** _____

_____

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_____

_____

_____

_____

**[4 marks]**

**Look at the spreadsheet for Question 8(b) in the separate Data Booklet.**

**(b) Using the spreadsheet, describe and give examples of the use of the following.**

**Variable** _____

_____

_____

_____

_____

_____ **[2 marks]**

**Use** _____

_____

_____ **[1 mark]**

**Function** _____

_____

_____

_____

_____

_____ **[2 marks]**

**Use** _____

_____

_____ **[1 mark]**

**End of Question 8.**

**9 EJO is concerned that the information they hold on their computers is vulnerable to theft.**

**(a) Explain how the following methods protect ICT systems.**

**Encryption** _____

_____

_____

_____

_____

_____

**Firewall** _____

_____

_____

_____

_____

_____

**Software patches** _____

_____

_____

_____

_____

_____ **[6 marks]**

**EJO have been informed that they need to register with the Information Commissioner.**

**(b) The Data Protection Act (1998) (DPA) was created to protect data about the individual.**

**Identify TWO rights the user has under the DPA.**

**1** _____

_____

_____

**2** _____

_____

_____

**[2 marks]**

**(c) Explain problems an individual could encounter when trying to enforce their rights under the DPA.**

_____

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_____ **[6 marks]**

**End of Question 9.**

**10 EJO requires a relational database to be developed that will:**

**store details of artists and their works;**
**store details of customers;**
**store details of sales.**

**(a) Two of the entities are CUSTOMER and ARTIST.**

**Identify TWO other entities that would be needed to create the database to meet EJO's requirements.**

**1** _____

_____

**2** _____

_____

**[2 marks]**

**(b) Create an entity relationship diagram for the relational database identifying the degree of the relationships between the entities. [4 marks]**

**End of Question 10.**

---

**Question 11* on the next page**

**11* EJO wants disabled visitors to be able to enjoy all facilities that the art gallery offers.**

**Discuss the impacts and consequences of future developments in ICT on the disabled visitors.**

**[11 marks]**

**End of Question 11*.**

**End of examination.**

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