

OXFORD CAMBRIDGE AND RSA EXAMINATIONS
A2 GCE
G063/01
INFORMATION AND COMMUNICATION
TECHNOLOGY
ICT Systems, Applications
and Implications
TUESDAY 23 JUNE 2015: Morning
DURATION: 2 hours
plus your additional time allowance
MODIFIED ENLARGED 24pt

Candidate forename						Candidate surname				
Centre number						Candidate number				

Candidates answer on the Question Paper.

OCR SUPPLIED MATERIALS:
None

OTHER MATERIALS REQUIRED:
None

READ INSTRUCTIONS OVERLEAF

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.

Your quality of written communication is assessed in the question marked with an asterisk (*).

Any blank pages are indicated.

SECTION A

Answer ALL the questions.

1 A systems analyst could use interviews or questionnaires to investigate a system during the system life cycle.

Identify and describe TWO OTHER methods that a systems analyst could use.

1 _____

2 _____

[6]

2 When a company installs a new system, the employees who are going to use the new system may receive training in a number of different ways.

Compare the use of online tutorials with video conferencing.

[4]

3 A system may require maintenance as part of its life cycle. Corrective maintenance is one type of maintenance.

Identify TWO OTHER types of maintenance. For each type of maintenance explain why it is required.

1 _____

2 _____

[6]

4 Satellite communication systems are used in the transmission of television programmes.

Explain TWO ADVANTAGES of using satellites for this purpose.

1 _____

2 _____

[4]

5 Digital television networks offer a range of services.

Evaluate the impacts that offering a range of digital television services has had on TELEVISION COMPANIES.

[6]

6 A family has a number of computing devices including tablets, laptops and desktops. The family has created a peer-to-peer network within their home.

(a) Evaluate the family's decision to create a home network.

(b) Describe TWO ADVANTAGES to the family of using a peer-to-peer network instead of a client-server network.

1 _____

2 _____

[4]

7 Employees in a multinational company use video conferencing to communicate with employees in a different country.

(a) Identify and describe a suitable transmission medium for video conferencing.

[2]

(b) Describe why video conferencing needs a high bandwidth.

[2]

SECTION B

Answer ALL the questions.

Questions 8 to 19 concern Promote-U. Promote-U is a multinational advertising agency that has offices throughout the world.

- 8 Promote-U has an employee code of conduct that all of its employees are asked to sign.**

Justify Promote-U's decision to ask its employees to sign the code of conduct.

[6]

9 Promote-U allows employees to use social networking applications within the workplace.

Evaluate Promote-U's decision to allow employees to do this.

10 Promote-U has a client management database system that has been in operation for a number of years.

Describe THREE factors that Promote-U should consider when making a decision about whether or not to upgrade the client management database system.

1 _____

2 _____

3 _____

[6]

11 Promote-U has decided to design and implement a new client management database system.

(a) The user interface for the system will use a range of controls including text boxes and buttons.

Identify TWO OTHER types of control. For each type of control give a reason why it should be used.

1 _____

2 _____

[4]

(b) Describe TWO ways in which the user interface could be made more accessible to users with a visual impairment.

1 _____

2 _____

[4]

(c) Describe how mental models could be applied to the design of the user interface for the client management database system.

[4]

(d) Explain why it is important the client management database system closely matches the user's mental model.

[4]

12 Employees will be required to log in to the client management database system with a User ID and password.

A login screen will be displayed. The screen will contain a 'Forgot Password?' button.

If the 'Forgot Password?' button is clicked, a check will be performed to see if the system recognises the User ID.

If the User ID is recognised, a security question will be asked.

If the User ID is not recognised, an error message will be displayed. The user will be returned to the login screen.

The user's response to the security question will be checked. If the user gives the correct answer, an email containing the password will be sent to the user's email address. If an incorrect answer is given, the user will be given an error message and will be returned to the login screen.

Design a 'flowchart' for this process.

[5]

13 The database is normalised to third normal form (3NF).

Explain TWO ADVANTAGES of normalising the database.

1 _____

2 _____

[4]

14 Testing will take place during the development of the client management database system. Tests may use normal, extreme or erroneous test data.

Define what is meant by each of these terms.

Normal: _____

Extreme: _____

Erroneous: _____

[3]

15 Promote-U will install the client management database system in one of its offices. It could use direct or parallel changeover.

Compare direct changeover with parallel changeover for the installation of the client management database system in one office.

[4]

16 The client management database system is distributed between Promote-U's different offices.

(a) (i) Describe TWO ADVANTAGES of using horizontal partitioning as a method for distributing the database between the different offices.

1 _____

2 _____

[4]

(ii) Identify and describe ONE OTHER method that could be used to distribute the database.

[3]

(b) Explain why standards are important to allow communication between devices in Promote-U’s different offices.

[4]

17 One type of internal resource that Promote-U has is human.

Describe TWO OTHER types of internal resource that Promote-U has.

1 _____

2 _____

[4]

18 The UK Government may make changes that could affect Promote-U.

(i) Identify ONE change the UK Government may introduce that would have an impact on Promote-U.

[1]

(ii) Explain the impact that this change would have on Promote-U.

[3]

19* DISCUSS developments in computer technology that might impact on Promote-U's ICT security.

The quality of written communication will be assessed in your answer to this question. [11]

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