cea
Rewarding Learning

ADVANCED
General Certificate of Education
January 2012

Information and Communication Technology

Assessment Unit A2 1

assessing

Module 3: Information Systems

[AW211]

AW211

MONDAY 23 JANUARY, AFTERNOON

6972

1   A business operating from a small office requires new payroll software.

(a) Name and describe **three** methods of obtaining new software. Apart from cost and time factors, comment on the suitability of each **in this case**.

1.   Name _____

Description _____

_____

Suitability_____

_____

_____

2.   Name _____

Description _____

_____

Suitability_____

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_____

3.   Name _____

Description _____

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Suitability_____

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_____ [9]

(b) The employees who will use the payroll system must be trained.

Describe the main features of an on-line course.

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(c) Describe a suitable backup strategy for a typical payroll system.

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[Turn over

2 A company has implemented a range of security measures on its client server network.

(a) Describe the main features of a client server network.

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_____ [4]

(b) Describe how each of the following can improve network security.

Anti-virus software

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A firewall

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(c) Describe how auditing software can detect unauthorised modification of data.

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_____ [3]

(d) Describe how access rights can prevent unauthorised modification of data.

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_____ [3]

3 Two of the stages in the waterfall life cycle model are testing and maintenance.

(a) Describe **three** different types of test data used during unit testing.

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3. _____

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_____ [6]

(b) Explain what is meant by acceptance testing.

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_____ [3]

(c) Corrective maintenance can be performed on a computer system.

Name and describe **two** other types of software maintenance.

1. Name _____

   Description _____

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   _____

2. Name _____

   Description _____

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   _____ [6]

4 A car manufacturer uses a decision support system and an expert system.

(a) Describe the main features of a decision support system.

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_____ [4]

(b) Describe each of the following components of an expert system.

Rule base

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Inference engine

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_____ [4]

(c) The expert system is used to diagnose faults in car engines.

Evaluate the use of an expert system **in this case**.

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(d) The company's sales team can work from home.

    (i) Describe how ICT can be used to enable the sales team to work from home.

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_____ **[4]**

    (ii) Describe **two** drawbacks to the company of this use of ICT.

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2. _____

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_____ **[4]**

5 A supermarket chain could use a centralised database or a distributed database for its stock control system.

(a) Explain how data about stock would be kept up-to-date in

A centralised database

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A distributed database

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_____ [6]

(b) The supermarket introduces an acceptable use policy for employees using ICT.

Describe the contents of a typical acceptable use policy.

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(Questions continue overleaf)

6 An IT company uses a project management CASE tool for its software development.

(a) Describe the main features of a project management CASE tool.

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Details about each project are held in a table as shown below.

ProjectID	Project	ClientID	Client	ProgrammerID	Programmer	Job
P23	Holiday MIS	C19	Flinego	PR6	Green	Coding
				PR19	Black	Testing
				PR2	Gray	Coding
P44	Books DB	C24	Reedares	PR3	White	Testing
				PR19	Black	Coding

(b) Explain the problems caused by data redundancy.

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_____ [3]

(c) Normalise the data in this table to 3NF, showing all your work.

1NF _____

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2NF _____

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3NF _____

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_____ [9]

[Turn over

7 A company has produced a new computer game for the PC.

The game is advertised in computer magazines and on the company's website.

(a) The game is distributed on DVD-R. Identify **three** main features of a DVD-R which make it suitable for distributing software.

1. _____

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2. _____

_____

3. _____

_____ [3]

(b) Describe **two** main advantages of advertising the game on the company's website instead of in computer magazines.

1. _____

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2. _____

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_____ [4]

(c) The game includes a natural language interface.

Explain what is meant by a natural language interface.

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(d) The company is concerned about computer piracy.

Write a report for the company's directors describing how the computer game could be protected from piracy.

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THIS IS THE END OF THE QUESTION PAPER

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