



*Rewarding Learning*

**ADVANCED**  
**General Certificate of Education**  
**January 2012**

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**Applied Information and  
Communication Technology**

Assessment Unit A2 7

*assessing*

Unit 7: Investigating Systems

**[A6J11]**

**MONDAY 16 JANUARY, AFTERNOON**

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**MARK  
SCHEME**

**1 (a) Mark band ([1]–[2])**

Candidate provides a basic answer showing limited understanding of the problems.

Limited knowledge and understanding displayed.  
 Limited reference to the company.  
 Basic written communication.

**Mark band ([3]–[4])**

Candidate provides a competent answer indicating understanding of the problems and how they could be addressed by the company.

Some knowledge and understanding displayed.  
 Reference to the company.  
 Reasonable written communication

**Mark band ([5]–[6])**

Candidate provides a very competent answer indicating thorough understanding of the company.

Good knowledge and understanding displayed.  
 Specific reference made to the company.  
 Very effective written communication

[6]

The specific information they might request could include:

- testimonials;
- evidence of previous work;
- details of project milestones;
- details of stages;
- detail of methodology;
- user interaction;
- documentation provider;
- training.

**(b) Company A plus appropriate reason**

[1]

7

**2**

<b>Reasons for Investigation</b>	
To attract new clients	
To obtain a thorough understanding of the current system	✓
To redesign all the forms	
To see if there are any problems in the company	✓
To work out a new discount system	
To develop new cleaning kits for the cleaners	
To make recommendations for improvement	✓
To help Harry do his job	
To reduce the number of employees	
To source new machinery for the business	
To identify ICT solutions that would benefit the company	✓
To help determine user requirements	✓

[1] for each correct tick × 5

[5]

5

3

<b>Information needed</b>	<b>Technique</b>	<b>Reason</b>
How the invoicing process is managed	<b>Interview or observe</b>	<b>Harry manages this process and understands what has to be done and what isn't being done.</b>
The strategic aims of the company	<b>Interview</b>	<b>Terry and Fiona as the company owners are responsible for making decisions about how the company should develop.</b>
The forms used in the company	<b>Reading round the system/document inspection</b>	<b>It would be important for the analyst to fully understand and be aware of any documents used in the organisation.</b>
Client views on the service	<b>Questionnaires</b>	<b>It is the easiest way to get information from a wide range of clients.</b>

[1] for each correct technique × 4

[1] for each valid reason × 4

[8]

8

- 4 (a) It should be noted that not all identified problems in SQUEAKY CLEAN can be resolved by the introduction of a computer system.

Problems could include any of the following:

- |   |                       |
|---|-----------------------|
| Labour intensive contract process         | Late payment of wages |
| Copying and posting procedures            | Preparing invoices    |
| Volume of work for Harry                  | Checking payments     |
| Time delay in renewing contracts          | Lack of data sharing  |
| Filing of documents                       |                       |
| Incomplete documents                      |                       |
| Stock ordering process not well organized |                       |
| No internet access                        |                       |

[1] each for any identified problem × 2 [2]

**(b) Mark band ([1]–[2])**

Candidate provides a basic answer showing limited understanding of the problems and how they could be addressed by a computer system.

- Limited knowledge and understanding displayed.
- Limited reference to the case study.
- Limited reference to how the implementation of a computer system would resolve the identified problems.
- Basic written communication.

**Mark band ([3]–[4])**

Candidate provides a competent answer indicating understanding of the problems and how they could be addressed by a computer system.

- Some knowledge and understanding displayed.
- Reference made to the case study
- Reference to how a computer system would resolve the identified problems.
- Reasonable written communication

**Mark band ([5]–[6])**

Candidate provides a very competent answer indicating thorough understanding of the problems and how they could be addressed by a computer system.

- Good knowledge and understanding displayed.
- Specific reference made to the case study
- Specific reference made as to how a computer system would resolve the identified problems.
- Very effective written communication

[6] 8

- 5 (a) There should be mention of data source/sink (oval with lower case letter), data flow line (arrowed line with detail), identification of SQUEAKY CLEAN (rectangle with verb).

**Mark band ([1]–[2])**

Candidate provides a basic answer showing limited understanding of a context diagram.

Limited knowledge and understanding displayed.  
 Limited reference to the context diagram elements.  
 Basic written communication.

**Mark band ([3]–[4])**

Candidate provides a competent answer indicating understanding of the problems and how they could be addressed by a computer system.

Some knowledge and understanding displayed.  
 Reference to the context diagram elements.  
 Reasonable written communication

**Mark band ([5]–[6])**

Candidate provides a very competent answer indicating thorough understanding of the context diagram, it's elements and reasons.

Good knowledge and understanding displayed.  
 Specific reference made to the case study  
 Specific reference made to the context diagram.  
 Very effective written communication

[6]

- (b) (i) Van driver  
 (ii) Van driver task schedule  
 (iii) Damage report form  
 (iv) Manage task schedules  
 (v) Damage report details  
 (vi) Task schedule  
 (vii) Cleaner task schedule  
 (viii) Signed cleaner task schedule

[1] for each correct answer × 8

[8]

14

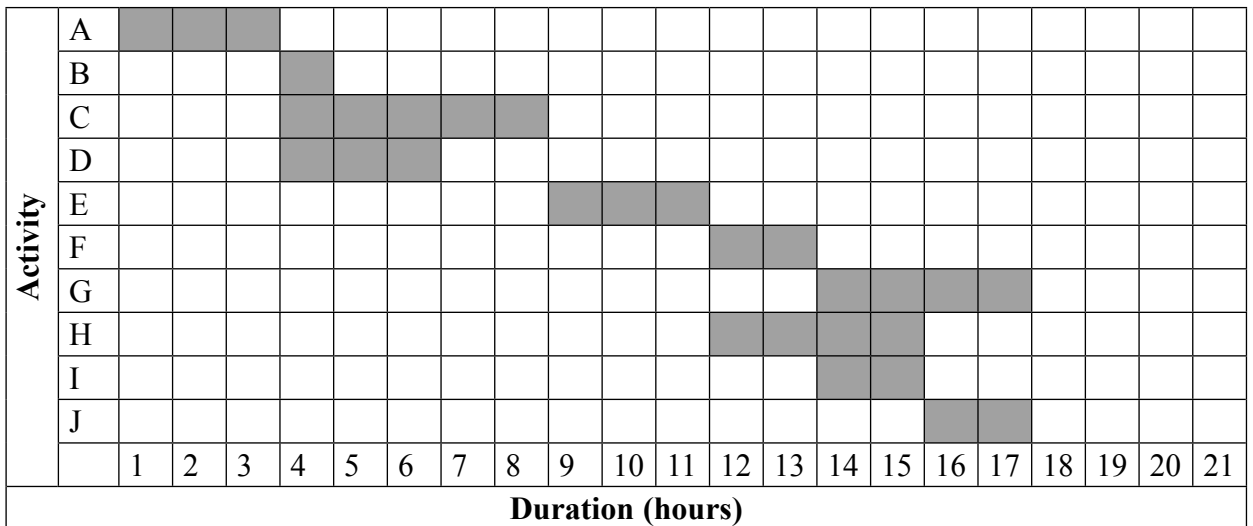
ITEM	Feasibility Study	System Specification	Technical Guide	User Guide
Budget	✓			
Entity relationship models		✓		
Adding new hardware			✓	
Test data		✓		
Creating a new contract				✓
Adding a new employee				✓
Data flow diagrams		✓		
Cost benefit analysis	✓			
Problems with current system	✓			
Proposed outputs		✓		

[1] for each tick × 10

[10]

10

7 (a)



[1] for each correct row [1] × 10

[10]

(b) Shortest time is 17 hours.

[1]

(c) Areas of slack can be found at B, D, H or I

[1]

- B – Establish relationships
- D – Create forms
- H – Test queries, forms and reports
- I – Test user interface

AVAILABLE MARKS

(d) Activity D – no change in the overall time

Activity E – increase in the overall time by 1 hour

Stretch and challenge

**Mark band ([1]–[2])**

Candidate provides a basic answer showing limited understanding of the implications of adding extra hours to activities D and E.

Limited knowledge and understanding displayed.  
 Limited reference to the different knock on effects.  
 Limited reference to float associated with activity D  
 Limited reference to the time increase in critical path for activity E.  
 Basic written communication.

**Mark band ([3]–[4])**

Candidate provides a competent answer indicating some understanding of the implications of adding extra hours to activities D and E.

Some knowledge and understanding displayed.  
 Some reference to the different knock on effects.  
 Some reference to float associated with activity D  
 Some reference to the time increase in critical path for activity E.  
 Reasonable written communication

**Mark band ([5]–[6])**

Candidate provides a very competent answer indicating thorough understanding of the implications of adding extra hours to activities D and E.

Good knowledge and understanding displayed.  
 Good reference to the different knock on effects.  
 Good reference to float associated with activity D  
 Good reference to the time increase in critical path for activity E.  
 Very effective written communication

[6]

18

8 (a)

<b>REASONS FOR USING A DATABASE</b>	
Employees will be able to set the system up themselves.	
Data will all be stored in one central location.	✓
Data duplication will be minimized.	✓
Employees will be able to amend their task schedules.	
Management reports can be produced easily.	✓
Client contracts can be approved.	

[1] for each tick × 3 [3]

(b) (i)

Field Name	Data Type/ Size	Comments	Sample Data
StaffID		<b>Suitable comment – not just Staff ID</b>	
Forename			
Surname	<b>Text, 5</b>		
Telephone	<b>Text, 11</b>		
Start Date	<b>Date/Time</b>		<b>12/04/10</b>

[1] for each entry × 5 [5]

(ii) Table is related to the JOB table [1]

(iii) Description of how the relationship will be established  
Staff ID would be foreign key in JOB table [2]

(c)

OUTPUT	PROCESS	TABLE(S)
Client List	List of all clients	1. –
Invoice	Based on a client contract, calculate the amount due for a certain time period.	<b>1. CLIENT</b> 2. – <b>3. CONTRACT</b>
Client statement	Display the outstanding payment details for each client.	<b>1. CLIENT</b> <b>2. JOB</b> <b>3. PAYMENT</b>

[1] for each named table × 5 [5]



9 (a)

Date service required	✓
Bank account details	
Client Name	✓
Client Number	
Contract Number	
Service type required	✓
Time service required	✓
National Insurance Number	

[1] for each correct tick × 4 [4]

(b) Two benefits to customers include:

Customers can book at any time  
 Customers can fill in all required details on line from their own home  
 No need to go to SQUEAKY CLEAN offices

Any **two** customer benefits [1] × 2 [2]

(c) Two benefits to employees include:

Can see at a glance bookings  
 Can manage work schedules ahead of time  
 Immediate record of booking

Any **two** employee benefits [1] × 2 [2]

8

10

Support name	Advantage	Disadvantage
Call Centre	Easy to pick up phone and get help	Technical issues may not be addressed. Expensive
Help line	As above	Expensive, line busy
On line diagnostic help	Easy to key in question	Needs internet connection Accuracy of help
Bulletin Board	Easy to set up thread	Accuracy of advice
Technician in-house	Constant expert help in SQUEAKY CLEAN	Expense (especially if all is well with the system)
Support	Part of the contact provided by ABSOLUTE ANSWERS	Need to renew contract after 1 year

[3] for each support including advantage and disadvantage × 2 [6]  
 Don't accept manual.

6

**Total 100**