Rewarding Learning

ADVANCED
General Certificate of Education
January 2011

Applied Information and Communication Technology

Assessment Unit A2 7

assessing

Unit 7: Investigating Systems

[A6J11]

THURSDAY 13 JANUARY, AFTERNOON

MARK SCHEME

1

REASON FOR DEVELOPING A NEW SYSTEM	
Loads of paperwork in use at SQUEAKY CLEAN.	✓
Harry, the secretary, does not like paperwork.	
A major objective is to provide a good quality service to customers.	✓
Terry and Fiona would like to extend the range of services that are offered.	✓
Terry and Fiona would like to take more holidays.	
A new system will improve the standard of cleaning provided.	
Customers find it difficult to renew their contracts.	✓
The number of clients is growing rapidly.	✓

[1] for each correct reason. [5] 5

2 **(a)** Delegate list 1 – [1]

(b) Mark band ([1]–[2])

Candidate provides a basic answer showing limited understanding of the purpose of a project initiation meeting.

Limited knowledge and understanding displayed.
Limited reference to purpose of meeting – i.e. to gain an overview of operational requirements.
Reference made to the fact that there are too many people in list 2.
Too many people with a range of opinions would mean that there is no way the meeting would be completed within one hour.
Basic written communication.

Mark band ([3]–[4])

Candidate provides a competent answer indicating understanding of the purpose and requirements of a project initiation meeting.

Some knowledge and understanding displayed.
Clear understanding of purpose of meeting.
Importance of key individuals referred to.
Reference made to effective use of time.
Only need to speak to system owners at this stage. Not necessary for ABSOLUTE ANSWERS to hear detail – e.g. from cleaners and driver.
Appropriate level of written communication.

Mark band ([5]–[6])

Candidate provides a very competent answer showing thorough understanding of a project initiation meeting and the role of key individuals of such a meeting.

Very good knowledge and understanding displayed.
Purpose of meeting explained fully.
Reference made to role of some key individuals.
Negative impact of the other employees discussed in detail.
Specific examples included.
Very effective written communication.

3

INFORMATION NEEDED	SUGGESTED FACT FINDING ACTIVITY	SENIOR ANALYST'S DECISION	EXPLANATION OF DE…
Define the Terms of Reference for the project.	Interview Terry, Caroline and Harry individually.	DISAGREE	The Terms of Reference can only be provided by senior management.
Operational requirements.	Interview Caroline and Harry. Questionnaires	AGREE	These are the people who carry out the day-to-day activities within the business and as such are most aware of the requirements of a new system and the problems with the existing method of doing things.
Sample documentation.	Ask only the cleaners for samples of the documents they complete.	DISAGREE	The cleaners are only involved with certain parts of the documentation. Necessary to get as much documentation as possible so would need to speak to Caroline and Harry.
Organisation structure.	Ask either Terry or Fiona for an organisation chart.	AGREE	There should only be one version of this structure which can be confirmed by the owners of the business.
Daily office activities.	Visit premises and make notes following an observation period.	AGREE	It is very important that the analysts get some first-hand knowledge of the business.

	AVAILABLE MARKS
[1] for each of the above or other valid response. [6]	6

4

REASONS FOR INTRODUCING A LOCAL AREA NETWORK	
Employees will be able to collaborate.	✓
Caroline can access client details from home.	
Useful hardware can be easily shared by all staff.	✓
SQUEAKY CLEAN can buy new machines of a lower specification.	
Centralised backup procedures can be implemented.	✓
All employees will have internet access.	
SQUEAKY CLEAN will appear more professional.	
Paperwork will be reduced.	✓

[1] for each correct answer.   [4]   4

Lose [1] for each extra tick.

5 (a) Predecessor A must have tick, dash or "none".

Activity	Description	Predecessor	Duration (days)	
A	Design questionnaire	–	2	[1]
B	Administer customer questionnaire	A	10	[1]
C	Analyse questionnaire data	B	1	[2]
D	Interview Caroline	A	1	[2]
E	Interview Harry	–	1	
F	Review documentation obtained during interviews	E	2	[1]
G	Observe Harry	E	1	[2]
H	Compile analysis report	C, F, G	2	[1]
I	Present findings	H	1	[1]

[11]

(b) 16 days – must write the word "days". [1]

(c)

Mark band ([1]–[2])

Candidate provides a basic answer showing limited understanding of project management techniques.

Limited knowledge and understanding displayed.
Alternatives identified – extra staff, extra money, reduce time.
Basic written communication.

Mark band ([3]–[4])

Candidate provides a competent answer indicating understanding of project management techniques.

   Some knowledge and understanding displayed.
   2 viable alternatives identified – e.g. allocate another employee;
   reduce time on certain activities
   Critical path referred to.
   Appropriate level of written communication.

Mark band ([5]–[6])

Candidate provides a very competent answer showing thorough understanding of project management techniques.

   2 alternatives identified and discussed using specific examples.
   Importance of critical path clearly shown.
   Slack referred to.
   Very effective written communication.   18

6 **(a)** Level 1 diagram. [1]

(b) A file [1]

(c) Possible problems:

Important parts of system may have been left out.
Will not have obtained an overview of the whole process. [2]

(d)

COMPONENT	CORRECTION	
suppliers	a suppliers	Must include lower case identifier [1]
contracts	M1 contracts	Must include file identifier M1 and remove line at end of symbol [2]
Send order to supplier	Supplier order	[1]
b Accounts process	1.1 Process accounts	Must include process description starting with verb and also numeric process ID [2]
Manage Administration at SQUEAKY CLEAN	Manage Administration at SQUEAKY CLEAN	1 mark for process box; one mark for no number in process box [2]
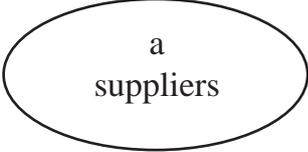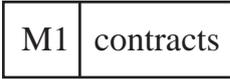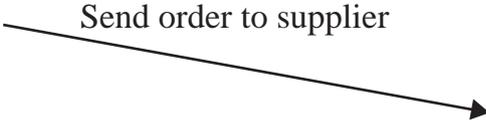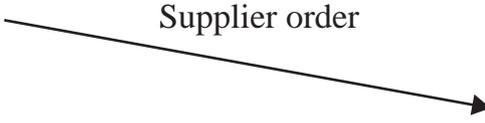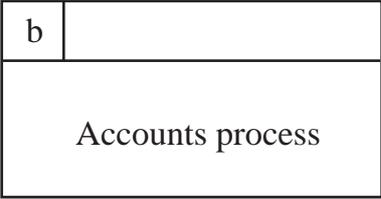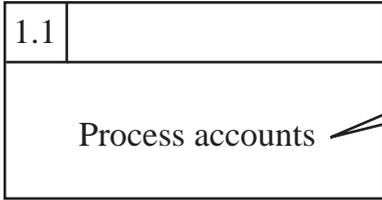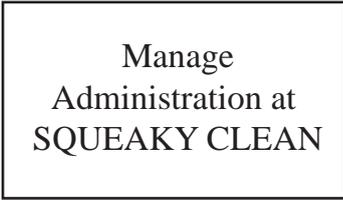
[8]

12

8

7

	CATEGORIES			
REQUIREMENTS	**INPUT**	**OUTPUT**	**FILE**	**PROCESS**
Client details	✓			
Job enquiry form		✓		
Staff			✓	
Weekly task schedule		✓		
Produce supplier order				✓
Create task schedule				✓
Client contracts		✓		
Clients			✓	

[1] for each tick – only one tick allowed in each line.   [8]   8

8 **(a)**

Client name	Date
Client address	Telephone
Start time	Day
No. of hours	Completed
Staff name	

[1] for each of any five fields listed from above list. [5]

(b) [1] for any two from: Task schedule date
Day of week
Page number [2]

(c) (i) Client No and Job Ref are primary keys in their respective tables.
The primary key is a field which uniquely identifies a record
within a table. [1]

(ii) Client No in the JOB table will link to Client No in the CLIENT
table [1]

Client No in the JOB table is a foreign key [1]

(d)

Mark band ([1]–[2])

Candidate provides a basic answer showing limited understanding of a
table structure.

Limited knowledge and understanding displayed.
Limited reference to specific examples from sample data.
Errors.
Basic written communication.

Mark band ([3]–[4])

Candidate provides a competent answer indicating understanding of the requirements of a database table.

Some knowledge and understanding displayed.
Some problems identified – specific examples included.
- Duplication of data;
- Inconsistency of data;
- Time consuming due to repeated entry of data;
- Incorrect fields included.

Appropriate level of written communication.

Mark band ([5]–[6])

Candidate provides a very competent answer showing thorough understanding of the purpose of tables within a relational database.

Several problems identified and specific examples included.
Reasons for problems discussed.
Correct solution suggested.
Very effective written communication.   16

9 (a)

DOCUMENT	PHASE	PRODUCED BY	PRODUCED FOR
User Guide	Implementation	Analyst or Programmer	Users
Feasibility Study	Initiation or Investigation	Analyst or James McKenna	System owners or Terry Hamilton or Fiona Duffy
Test Log	Implementation	Analyst or programmer or user	Analyst or programmers
Context Diagram	Analysis or Investigation	Analyst	System owners or Terry Hamilton or Fiona Duffy

[1] for each answer as shown above. [8]

(b) Reasons for documentation:

- Enables the people involved to have evidence of what has happened at each stage of a project.
- Facilitates communication between project members throughout the lifecycle.
- Quality standards.
- Provides a useful reference point if anything goes wrong with a system or project.
- Necessary for audit purposes.
- May be required in order to release funds.
- Useful for training.
- Useful resource if a similar project has to be tackled in the future.

[1] for each of any two reasons from the above list or other valid reason. [2]

10

10 (a)

Invoice No	Invoice Date	Client No	Reason for rejection
10022	03/03/2011	C199	Date in future – invoice must be for a date in the past
1OO23	28/11/2010	C001	Letter O used instead of zero
10256	23/12/2010	C999	Must be invalid client no as other fields fine
11230	12/23/2010	C190	American format used for date
1002A	03/03/2010	C199	Invoice number incorrect format

[1] for each of the reasons given above.   [5]

(b) Mark band ([1]–[2])

Candidate provides a basic answer showing limited understanding of testing.

Types of testing identified.
Basic written communication.
Reference to different people.

Mark band ([3]–[4])

Candidate provides a competent answer indicating understanding of the testing process.

> Three types of testing explained well.
> Reference made to how testing is integrated in system lifecycle.
> Good understanding of roles of people involved.
> Appropriate level of written communication.

Mark band ([5]–[6])

Candidate provides a very competent answer showing thorough understanding of the testing process.

> Thorough explanation of each of three types of testing.
> Sequence of testing referred to.
> Clear understanding of role of individuals involved in the process shown.
> Reference made to possible problems if testing is not carried out well.
> Consideration to other options – by treatment/by customer etc.
> Specific examples included.
> Very effective written communication.

11

11 Reasons for failure:

- Insufficient time spent on analysis and design.
- Not enough input from key employees.
- Poor project management.
- Poor training.
- System does not meet user expectations.
- System too difficult to use.
- Benefits not apparent to users.
- Poor testing.

[1] for each of any three reasons from the above list or other suitable alternative.   [3]   3

Total   **100**