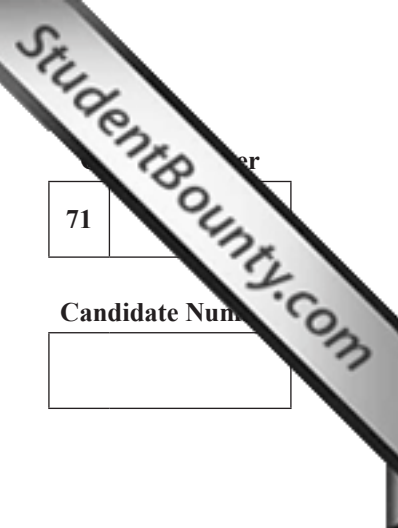




Rewarding Learning

ADVANCED
General Certificate of Education
2012



71
Candidate Number

Applied Information and Communication Technology

Assessment Unit A2 7

assessing

Unit 7: Investigating Systems

[A6J11]



FRIDAY 25 MAY, MORNING

TIME

2 hours.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.
Answer **all ten** questions.

INFORMATION FOR CANDIDATES

The total mark for this paper is 100.
Quality of written communication will be assessed in **questions 2, 5, 8 and 10**.
Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.
This paper is accompanied by a Case Study. You must **not** use your own annotated copy of this Case Study.

ADVICE TO CANDIDATES

You are advised to take account of the marks for each part question in allocating the available examination time.

For Examiner's use only			
Question	Marks available	Marks	Remark
1	4		
2	14		
3	6		
4	8		
5	14		
6	16		
7	8		
8	10		
9	9		
10	11		
Total	100		



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1 Fiona and Terry have employed the consultancy company ABSOLUTE ANSWERS to help them resolve the growing issues in their company. James McKenna, the senior analyst, considers that user involvement is vital for the success of any systems investigation process.

(a) State **three** reasons why James considers user involvement to be so important at this stage.

Reason 1 _____
_____ [1]

Reason 2 _____
_____ [1]

Reason 3 _____
_____ [1]

(b) State **one** reason why the involvement of a user might not be a good idea during a systems investigation process.

_____ [1]

2 James McKenna intends to allow his two trainee analysts to take part in the analysis process.

(a) Help the trainees by identifying **one** fact finding technique associated with each statement in the table below.

STATEMENT	FACT FINDING TECHNIQUE
Employees can be anonymous.	
Analyst can obtain detailed information from the people who know most about the system.	
Questions may be misinterpreted and there is no way of seeking clarification.	
Will be able to see how well the system operates and how the employees react to situations.	
Requires greater interpersonal skill on behalf of the analyst.	
Records may not be properly maintained and so the information gathered could be inaccurate.	
Useful to see the procedures at first hand.	
Can interact with employees at all levels in the company.	

[8]

- 3 James McKenna has explained to Terry and Fiona that there are key aspects of the organisation that must be investigated thoroughly. Some of these are listed below.

Complete the table by providing **one** reason why each aspect should be investigated.

ASPECT OF ORGANISATION TO BE INVESTIGATED	REASON
Organisation structure and staffing	
Inputs	
Outputs	
Files	
Processes	
Problems	

[6]

- 4 ABSOLUTE ANSWERS want staff at SQUEAKY CLEAN to understand the impact that some of the problems they have discovered may have on the business.

For each of the problems below, identify **two** ways in which the problem will impact on the business.

PROBLEM	IMPACT ON BUSINESS
Caroline and Harry use standalone PCs.	1. 2.
Stock items are sometimes not available for staff.	1. 2.
Harry is at least two weeks behind in creating invoices.	1. 2.
Some client payments are not recorded.	1. 2.

[8]

- 5 (a) James is keen that the trainees understand that different methodologies can be used in the development process. He has started to compile the table below and wants the trainees to complete it.

Complete the table below.

CHARACTERISTIC	METHODOLOGY
Very suited to business applications	
	DSDM
Produces documentation at each stage of the development.	
Uses data flow modelling.	
Large systems may be broken down into smaller tasks so that different tasks can be developed at the same time.	
	SSADM
Not possible to see the product until very late in the development cycle.	
	DSDM

[8]

6 (a) James McKenna has asked the trainees to provide him with their version of the context diagram. The first step in producing a context diagram is to define the main context process.

(i) In the space below draw the **context process** for SQUEAKY CLEAN.

Context Process

[2]

(ii) Two of the external entities are owners and suppliers. In the space below draw **three** other entities.

Entity 1

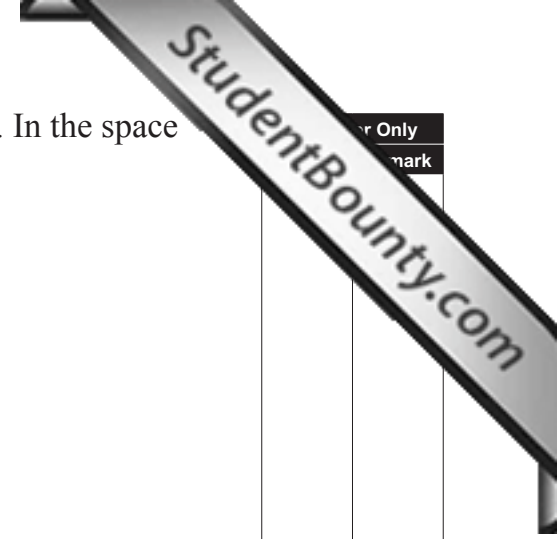
[2]

Entity 2

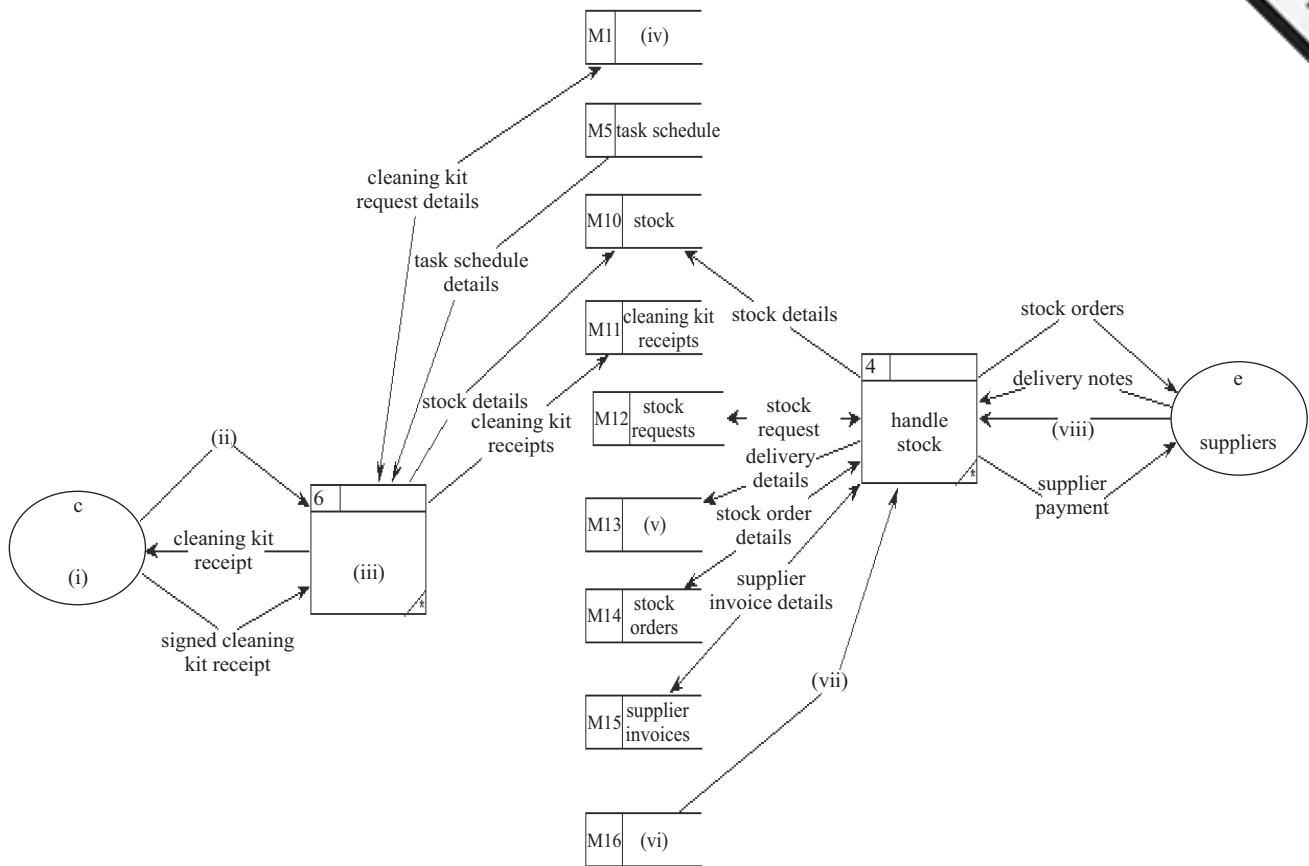
[2]

Entity 3

[2]



(b) James has also given the trainees a partially completed fragment of the data flow diagram as shown below. Complete the partial level-1 diagram by identifying the missing elements. Write your answers in the space provided.



(i) _____

(v) _____

(ii) _____

(vi) _____

(iii) _____

(vii) _____

(iv) _____

(viii) _____

[8]

Examiner Only	
Marks	Remark

7 Caroline has been talking to James McKenna and has noted his use of Gantt charts and network diagrams in the systems investigation. She realises that she could apply project management techniques to her own work and has asked James for some information.

(a) Identify **one** feature of Gantt charts and give **one** example of where the technique could be applied in Caroline's work.

Feature _____

Example _____

_____ [2]

(b) Identify **one** feature of network diagrams and give **one** example of where the technique could be applied in Caroline's work.

Feature _____

Example _____

_____ [2]

(c) James has given Caroline an exercise to complete to help her understanding of the use of Gantt charts and Network Diagrams. He has asked her to list some of the activities she does each week, estimate the length of time in hours she spends on each and try to prioritise them.

	DESCRIPTION	PREDECESSOR	DURATION
A	Arrange visits	–	2
B	Conduct visits	A	10
C	Assess jobs	B	3
D	Create client requirement forms	C	3
E	Cost options	D	2
F	Prepare costing summary	E	4
G	File copies	F	1
H	Draw up client contracts	G	3
I	Copy contracts and post to Fiona	H	1
J	Approve contracts	I	1
K	Send approved contracts to client	J	1

(i) Explain the purpose of the predecessor column.

[2]

(ii) James has advised Caroline to use a Gantt chart to present her weekly activities.

Give a reason for his recommendation.

[1]

(iii) Calculate the duration of the critical path for the activities.

[1]

8 ABSOLUTE ANSWERS wishes to establish a testing team to be involved in the various stages in the development of the new system at SQUEAKY CLEAN. Fiona and the programmer will both be involved in the team.

(a) Select which phase of testing Fiona and the programmer should be involved in giving a reason for your answer.

Fiona

Phase of testing

_____ [1]

Reason

_____ [1]

Programmer

Phase of testing

_____ [1]

Reason

_____ [1]

The following testing teams have been suggested.

<p>Testing Team 1</p> <p>Analyst</p> <p>Fiona</p> <p>Harry</p> <p>Programmer</p> <p>Caroline</p>

<p>Testing Team 2</p> <p>Fiona</p> <p>Harry</p> <p>Programmer</p> <p>Client</p> <p>Terry</p> <p>Cleaner</p>
--

- 9 James wants to ensure that the new system will allow client contracts to be produced correctly. The current contract is shown below.

Squeaky Clean Contract Number _____

Agreement between _____ Client

of _____

and _____ of SQUEAKY CLEAN (Provider)

I have read the attached terms and conditions supplied by SQUEAKY CLEAN and agree to accept the following service supplied by the company.

Option: _____ commencing on

Start Date: _____ and finishing on

End Date: _____ at a rate of

Rate: _____ for a period of

Weeks: _____

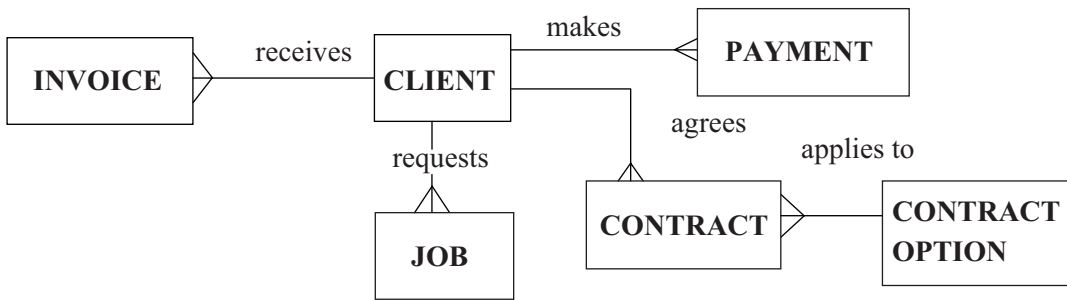
This signed document is legally binding.

Signed by: _____ Date: _____
On behalf of the Client

Signed by: _____ Date: _____
On behalf of the Company

Witnessed By: _____ Date: _____

James has proposed the following database structure which will contain all necessary information required to complete the contract.



(a) Complete the table below, identifying with a tick (✓) where each field can be found in the proposed database.

FIELD	CLIENT	CONTRACT	CONTRACT OPTION	NONE
Contract Number				
Client Name				
Client Address				
Option				
Start Date				
End Date				
Rate				
Number of weeks				

[8]

(b) Explain how the end date could be determined from the database.

[1]

10 ABSOLUTE ANSWERS has advised Terry and Fiona that the company would benefit significantly from having a well designed website. The analysts have suggested having a brainstorming session with some staff in order to develop a storyboard to summarise the design for the proposed website.

(a) What is meant by the term storyboard?

[1]

(b) Identify **two** members of staff you feel should be involved in the development of the storyboard giving a reason for your answer in each case.

Staff member 1

[1]

Reason

[1]

Staff member 2

[1]

Reason

[1]

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