

ADVANCED General Certificate of Education 2012

Information and Communication Technology

Assessment Unit A2 1

assessing

Module 3: Information Systems

[AW211]

FRIDAY 25 MAY, MORNING





2 hours.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

Write your answers in the spaces provided in this question paper. Answer **all seven** questions.

INFORMATION FOR CANDIDATES

The total mark for this paper is 120 including a maximum of 5 for quality of written communication.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.



7144

For Examiner's use only		
Question Number	Marks	
1		
2		
3		
4		
5		
6		
7		
QWC		
Total Marks		

Centre Number

71

Candidate Number

www.StudentBounty.com Homework Help & Pastpapers **1** A relational database stores data about examination results.

StudentID	StudentName	ExamID	ExamName	ExamBoardID	ExamBoard	Grade
S167	Green A	C12 P14	Chemistry Physics	E01 E01	ABC ABC	A C
S174	Black B	B12 P14	Geography Physics	E02 E01	XYZ ABC	B A
S321	Brown C	B12 P14 C12	Geography Physics Chemistry	E02 E01 E01	XYZ ABC ABC	A B A

An extract from the database is shown below.

(a) Draw a fully labelled Entity Relationship (ER) diagram, not including many-to-many relationships, to represent the data in this table.

[7]

Examiner Only Marks Remark

(b) Explain what is meant by

(i) A primary key

	(ii)	A composite key	Examin Marks	er Only Remark
			Marks	Keinark
		101		
		[3]		
	(iii)	A foreign key		
		[3]		
		[0]		
(a)	اطمه	tify two honofits of database normalization		
(C)	luer	ntify two benefits of database normalisation.		
	1			
	2			
		[2]		
Ļ		3	[Tur	n over

A chain of DIY shops has implemented a distributed database as shown 2 Examiner Only Marks Remark below. Head Office Shop A Shop B Communications Network Shop C Shop D (a) Describe how the database will be accessed in this case. [4] (b) Identify three drawbacks to the DIY shops of a distributed database. 1. _____ 2. _____ 3. _____ [3]

(c)	Describe the main features of a centralised database.		Examin	
			Marks	Remark
		[4]		
(d)	Error detection methods are used during data transmission on the			
(u)	Error detection methods are used during data transmission on the network.			
	network.			
	Describe how each of the following can be used to detect errors.			
	Echo checking			
	Ŭ			
		[0]		
		[2]		
	Checksums			
	Uneokoumo -			
		[4]		
		- L 'J		
	5		Tur	n ove
	U		1.01	

unauthorised mod	lifications to data.		Marks
		[4]	

A	n (organisation requires a new information system.	Exa	miner Only
(a	a)	Name and describe two different approaches to system development.	Wark	s Reman
		Name		
		Description		
		Name		
		Description		
		[8]		
(k	b)	Name and describe three different types of CASE tools which can be used in system development.		
		Name		
		Description		

[Turn over

Name			er Only
Description		Marks	Remark
Name			
Description			
	[9]		
			L

(c)	The information system undergoes software maintenance.	Examin	
	Explain the role of maintenance in improving software quality.	Marks	Remark
	[6]		
	9	[Tur	n ove

a)	Describe the main features of	
	A form-driven interface	
	A lom-diven intenace	
	A command line interface	
	[6]	
b)	Describe two features included in a GUI to assist experienced users.	
	1	
	2	
	[4]	

	[6]	
	[0]	
Support is available for users of an information system.		
Explain how support could be provided by a user group.		
	[4]	
	[4]	
	[4]	
	[4]	

a)	Name and describe the three main components of an expert system	I.	
	Name		
	Description		
	Name		
	Description		
	Name		
	Description		
		[9]	

Explain the role of the company's insurance consultan development of the expert system.	nts during the	Examine Marks	er C Re
	[4]		
13		[Turr	ו

pers	sonal data.		Marks	F
(a)	Explain the role of the Data Controller.			
(D)	Identify four rights of the Data Subject. 1			
	1			
	2			
	3			
	4			
		[4]		

		Marks	ner (Re
1			
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-			
_			
_			
2	·		
-			
_	[4]		

pu	company is concerned that employees are using the Internet for rposes not related to their work. The company has been advised to velop an intranet.		Examiner (Marks Re
Wr	ite a report for the management of the company describing		
•	How the intranet will address their concerns.		
•	Other steps the company could take to ensure employees make appropriate use of the Internet.		
		-	

	Examin Marks	er Only Remark
	Quali Writ	ity of
[10]	Writ Commu	tten nication

THIS IS THE END OF THE QUESTION PAPER

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