



12 Pages

1. Please give the information requested in the boxes below.
2. Enter your name in the space provided to the right, fold over and seal down (using the label provided) to hide your name.
3. The answers must be legibly written. The Examiners can either ignore illegible script or have it typed and the expense of typing charged to the candidate.
4. Write your answers in ink.
5. Begin each answer on a fresh page. Do all rough work in the answer book and cross it through.
6. No part of this book is to be torn out; it must be handed in complete.
7. If more books than one are used, fasten them together using the tags available from the invigilator(s).
8. **Every book must be handed in. In no circumstances may answer books, used or unused, be taken out of the examination venue.**

1	Student Number	1704746
2	Title of Examination Paper	Database Management Systems
3	Module Code	ACCA5014
4	Date and Time of Examination	09/05/19
5	Examination Venue	
6	Seat Number	G027
7	Number of Answer Books handed in	

[illegible]

(Gweler yr ochr arall am y fersiwn Cymraeg)

Student Number: 1704746

Time	T ₁	T ₂	bal _x (£500)
t1		BEGIN TRANS	500
t2	BEGIN TRANS	Read bal _x	500
t3	Read bal _x	bal _x = bal _x + 100	500
t4	bal _x = bal _x - 50	Write bal _x	500
t5	...	COMMIT	600
t6	Write bal _x		600 X
t7	COMMIT		550 X

Table 1: Table for Question 4c.ii.

T₂ - reads balance (500)
 [T₁ - reads balance (500)
 T₂ - Add 100 to balance
 T₁ - Take 50 does NOT commit
 T₂ - Writes to balance (+100)
 T₂ - Commits (600)
 T₁ - Write to balance (-50)
 T₁ - Commits (550)

2.5

explanation not quite correct.

~~Tutor~~

1 a) ~~*)~~ CREATE TABLE ~~TutorBooking~~ (
TutorNo CHAR (4) NOT NULL
CONSTRAINT CHK_TutorBooking_TutorNo
CHECK (TutorNo LIKE 'TN[0-9][0-9]'),
Title VARCHAR(10) NOT NULL,
FirstName VARCHAR(30) NOT NULL,
Surname VARCHAR(30) NOT NULL,
DOB DATE NOT NULL
CONSTRAINT CHK_TutorBooking_DOB
CHECK (DOB < GetDate();),
Email VARCHAR(80) NOT NULL,
City VARCHAR(80) NOT NULL,
Postcode VARCHAR(7) NOT NULL,
PhoneNo CHAR (13) NOT NULL
CONSTRAINT CHK_TutorBooking_PhoneNo
CHECK (PhoneNo LIKE '+44[0-9][0-9][0-9][0-9]
[0-9][0-9][0-9][0-9][0-9][0-9]'),
DBSEpiryDate DATE NOT NULL,
Status BIT NOT NULL
); PLEASE NOTE THE TABLE ABOVE IS NOT THE
TABLE ASKED FOR IN EXAM. Agreed.

not marked
wrong answer
correct response
marked below

i) CREATE TABLE TutorBooking (
BookingRef CHAR (6) NOT NULL
CONSTRAINT CHK_TutorBooking_BookingRef
CHECK (BookingRef LIKE '[0-9][0-9][0-9][0-9]
[0-9][0-9]'),
BookingDate DATE NOT NULL,
TutorNo CHAR(4) NOT NULL,
StudentNo CHAR(6) NOT NULL,
SubjectId CHAR(6) NOT NULL,
SubjectLevel VARCHAR(30) NOT NULL,
HourlyRate Decimal (4,2) NOT NULL

7



00.00

Q1, P3

(ii) ALTER TABLE TutorBooking
 ADD CONSTRAINT Fk_TutorBooking_Tutor
 FOREIGN KEY (TutorNo) REFERENCES Tutor
 (TutorNo); ✓

ALTER TABLE TutorBooking
 ADD CONSTRAINT Fk_TutorBooking_Student
 FOREIGN KEY (StudentNo) REFERENCES Student
 (StudentNo); ✓

ALTER TABLE TutorBooking
 ADD CONSTRAINT Fk_TutorBooking_Subject
 FOREIGN KEY (SubjectId) REFERENCES Subject
 (SubjectId); ✓

(3)

Q1, P2

(i) ALTER TABLE TutorBooking
 ADD CONSTRAINT Pk_TutorBooking
 PRIMARY KEY (BookingRef); ✓

(1)

(iv) CREATE TABLE TutorSubject (
 TutorNo CHAR(4) NOT NULL
 CONSTRAINT Fk_TutorSubject_Tutor
 FOREIGN KEY (TutorNo) REFERENCES Tutor (TutorNo),
 SubjectId CHAR(6) NOT NULL
 CONSTRAINT Fk_TutorSubject_Subject
 FOREIGN KEY (SubjectId) REFERENCES Subject (SubjectId),
 KSLevel VARCHAR(30) NOT NULL,
 ALevel VARCHAR(30) NOT NULL,
 HELevel VARCHAR(50) NOT NULL,
 MinHourlyRate Decimal(4,2) NOT NULL
 CONSTRAINT TutorSubject_MinHourlyRate
 CHECK (MinHourlyRate > 0),
 MaxHourlyRate Decimal(5,2) NOT NULL,
 CONSTRAINT CHK_TutorSubject_MaxHourlyRate
 CHECK (MaxHourlyRate >= MinHourlyRate)
);

(5.5)

1/2 incurred PK

Constraint involving 2 or more columns must be done at a table level as opposed to a column level constraint. please see CHK_TutorSubject_MaxHourlyRate constraint.



b) i) ~~SELECT TutorNo, Name, C~~
 SELECT TutorNo, FirstName, Surname, Email,
 PhoneNo, DBSEpiryDate FROM Tutor WHERE
 (DBSEpiryDate LIKE '% June 2019');
 GO

incorrect
where

not quite

no order by

1.25

ii) UPDATE TABLE Tutor
 SET DBS Status = 'Pending DBS check'
~~WHERE Status =~~
 WHERE DBSEpiryDate <= Exp Date();
 GO

2

23 1/2

iii) ~~SELECT MIN, MAX, AVG (HourlyRate Charge)~~
~~FROM TutorSubject WHERE (BookingDate~~
~~Tutor Booking~~
~~SELECT Min, Max, AVG (HourlyRate)~~
~~FROM TutorBooking WHERE (BookingDate~~
~~31-Dec-2018);~~
 GO

(HourlyRate)

(HourlyRate)

no need for where

1.75

4) ~~A - Atomicity -~~
~~C - Consistency - Only correct data is~~
~~B -~~
~~D -~~

a) A - Atomicity - Transactions are independent
 from each other

5

C - Consistency - Only correct data is inserted
 to the database

I - Integrity -

correct names
not quite definitions

2.5

D - Durability -

Q4

b)

3)
b)

i) By using logins, with usernames and passwords ~~only~~ will reduce the risk of unauthorized ~~access~~.

ii) User privileges and access controls determine what a user can and cannot do/see on a database. Users can be set up to have read, write and both privileges. When setting up users it is important that only the users who need it are given grant options (This is important because grant options determines a user's level of accessibility in the database).

iii) Views can be set up to only display to users certain amounts of information. Views do not directly



impact the database as data entered does not enter the database. *not quite always.*

(7)

i) CREATE VIEW ActiveTutors (
SELECT firstName, Surname, ContactEmail,
City
FROM Tutor
WHERE Status = 'Active'); *missed joins and some columns, needed the one below*

ii) ~~CREATE VIEW SubjectsWithActiveTutors (
SELECT firstName, Surname,~~

CREATE VIEW SubjectsWithActiveTutors
SELECT TutorNo.tn, firstName, Surname, Email,
SubjectId, MinHourlyRate, MaxHourlyRate, KsLevel,
A Level, HE Level
FROM Tutor JOIN ON
~~JOIN ON ta tn =~~ X
JOIN ON Tutor.tn = TutorSubject.tn

2 solutions provided
~~the other~~ missed this one
missed join
missed where clause

Q3-13

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