UTHM
Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER II
SESSION 2014/2015

COURSE NAME	:	SYSTEM SECURITY
COURSE CODE	:	BIS 33503
PROGRAMME	:	3 BIS
EXAMINATION DATE	:	JUNE 2015 / JULY 2015
DURATION	:	3 HOURS
INSTRUCTION	:	ANSWER **ALL** QUESTIONS

THIS QUESTION PAPER CONSISTS OF **FOUR (4)** PAGES

Q1 (a) A lead developer called you to lock an account. Outline the steps that you would take to comply with the request.

(5 marks)

(b) Outline the steps you would take to close a SQL Server user account.

(5 marks)

(c) List the system tables you would use to view all users in an Oracle database and SQL Server database.

(5 marks)

(d) Your development team wants to get access to the production SQL Server to pull some data subsets for an analysis project. Your partner sets up a linked server on the development server that links to the production server.

Write SQL statements together with comments to setup the remote login.

(10 marks)

Q2 (a) Differentiate between client/server and Web-based applications from security perspective.

(4 marks)

(b) Provide an example for each of the following database security models:

(i) Access modes model

(ii) Access matrix model

(6 marks)

(c) Provide SQL statements to activate user roles in Oracle and SQL Server.

(5 marks)

(d) Acme Manufacturing is implementing a new Web-based ordering system. By using the new system, sales person can manage the orders for preferred customers and an internal client/server application.

Table Q2(d)

Role	Permissions
clerk	Select, update and insert on all tables
supervisor	Clerk and delete
admin	Super and all permissions on the authentication table

Write SQL statement to implement the authorization **Table Q2(d)** using Database role based model.

(10 marks)

Q3 (a) List **FIVE (5)** fixed roles that come with SQL Server.

(5 marks)

(b) Demonstrate how to restrict access to a column in a table using SQL Server.

(5 marks)

(c) Demonstrate in detail the use of the DENY statement in SQL Server.

(5 marks)

(d) Illustrate how SELECT ANY TABLE privilege can be used through an example.

(10 marks)

Q4 (a) List **THREE (3)** side effects of excessive database auditing.

(3 marks)

(b) Discuss **THREE (3)** differences between internal and external audits.

(6 marks)

(c) List auditing process activities that are executed for each phase in business situation.

(6 marks)

(d)   Consider the following scenario:

> Your company received a request from its most important partner to comply with industry standards, which requires an audit trail of all financial data. Your manager summoned you to her office, explained this new requirement, and assigned you to design the architecture and a high-level auditing model. Compliance requires that all data changes be recorded in the history tables and that the auditing model employ a mechanism to audit any user on demand.

Use a data model or combination of the auditing models to produce:

(i)   a process flow diagram for your auditing model.

(ii)   identification of all components that will be involved in the auditing model.

(10 marks)

- END OF QUESTION -