ALLAMA IQBAL OPEN UNIVERSITY ISLAMABAD
(Department of Business Administration)

DATABASE MANAGEMENT (815)

CHECKLIST

SEMESTER: SPRING, 2014

This packet comprises the following material:

1. Text Book
2. Course Outline
3. Assignment No 1 & 2
4. Assignment Forms (2 sets)

Please contact at the address given below if you find any thing missing out of the packet.

Director,
Admission & Mailing
Allama Iqbal Open University,
H-8, Islamabad
Ph: 051-9057611-12

ALLAMA IQBAL OPEN UNIVERSITY, ISLAMABAD
(Department of Business Administration)

WARNING

1. **PLAGIARISM OR HIRING OF GHOST WRITER(S) FOR SOLVING THE ASSIGNMENT(S) WILL DEBAR THE STUDENT FROM AWARD OF DEGREE/CERTIFICATE, IF FOUND AT ANY STAGE.**
2. **SUBMITTING ASSIGNMENTS BORROWED OR STOLEN FROM OTHER(S) AS ONE'S OWN WILL BE PENALIZED AS DEFINED IN "AIOU PLAGIARISM POLICY".**

Course: Database Management (815) **Semester: Spring, 2014**
Level: MBA **Total Marks: 100**
Pass Marks: 40

GUIDELINES FOR ASSIGNMENT # 1 & 2:
The student should look upon the assignments as a test of knowledge, management skills, and communication skills. When you write an assignment answer, you are indicating your knowledge to the teacher:

- Your level of understanding of the subject;
- How clearly you think;
- How well you can reflect on your knowledge & experience;
- How well you can use your knowledge in solving problems, explaining situations, and describing organizations and management;
- How professional you are, and how much care and attention you give to what you do.

To answer a question effectively, address the question directly, bring important related issues into the discussion, refer to sources, and indicate how principles from the course materials apply. The student must also be able to identify important problems and implications arising from the answer.

For citing references, writing bibliographies, and formatting the assignment, APA format should be followed.

ASSIGNMENT No. 1
Unit (1–5)

Q. 1 Discuss various common database languages used in the business environment of Pakistan. Highlight the salient features of each language? **(20)**

Q. 2 How the role of a database supervisor is different from database administrator and data entry operator. Highlight the functions of each with examples. **(20)**

Q. 3 Discuss the significance of ERD. Draw an ERD for a Purchase and Sales System of a retail company comprising the following entities: **(20)**

i) Sales Order
ii) Purchase Order
iii) Products
iv) Supplier
v) Employees

Q. 4 Describe different types of logical database models? List advantages of using each model. **(20)**

Q. 5 Explain the concept of relational database. Explain three main types of anomalies with examples that may result when a user attempts to update a table having redundant data. **(20)**

ASSIGNMENT No. 2

(Units: 5–9)

This assignment is a research-oriented activity. You are required to obtain information relating to any business or commercial organization, write a paper of about 10 pages on the topic allotted to you. You are required to prepare two copies of Assignment # 2. Submit one copy to your tutor/teacher for evaluation and the second copy for presentation in the workshop in the presence of your resource persons and classmates, which will be held at the end of the semester prior to final examination. Student studying at the approved Study Centers of AIOU are required to present the same at their study centers.

i. Introduction to the topic
ii. Important sub-topics
iii. Practical study of the organization with respect to the topic
iv. Review of theoretical and practical situations
v. Merits, demerits, deficiencies or strengths of the organization with respect to topic under study
vi. Conclusions and recommendations
vii. Annex, if any

You may use transparencies, charts or any other material for effective presentation. You are required to select one of the following topics according to the last digit of your roll number. For example, if your roll number is D-3427185 then you will select topic number 5 (the last digit).

0. Role of Database Management in Business Information Systems
1. Application of Decision Support System (DSS) in a Business
2. Issues and Challenges of a Database Management System

3. Relational Database Management System in an Educational Institute
4. Application of Management Information System (MIS) in a Telecommunication Organization
5. Security and Integrity Issues in Database Management and their Solutions
6. Database Development Process
7. Object Oriented Database System in a High-Tech Company
8. File Processing System Vs. Database Management System
9. Database Recovery Facilities

DATABASE MANAGEMENT
Course Outline (MBA-815)

Unit 1. Introduction

1.1. Purpose of Database Systems
1.2. View of Data
1.3. Data Models
1.4. Database Languages
1.5. Overall System Structure
1.6. Database Administrator

Unit 2. Elements of Database Systems

2.1. Transaction Management
2.2. Storage Management
2.3. Communication Management
2.4. Database Users
2.5. Application Software
2.6. System Staff and its Role

Unit 3. Data Modeling and Structuring

3.1. Database Design
3.2. Conceptual, Internal and External view of Data
3.3. Conceptual Designing Evaluation
3.4. Backend Vs. Frontend
3.5. Designing Tools
3.6. CASE (Computer Aided Software Engineering) Tools
3.7. Entities Attributes and Entities Class
3.8. Data Structure: Linked Lists, Inverted Lists, B-tree, Indexes

Unit 4. Database Models

- 4.1. Hierarchical and Network Models
- 4.2. Relational Database Model
- 4.3. Distributed Databases
- 4.4. Multi database Systems
- 4.5. Object-oriented Database System
- 4.6. Developing a Conceptual Schema Set
- 4.7. Entity Relationship Model

Unit 5. Relational Model

- 5.1. Structure of Relational Model
- 5.2. Relational Algebra
- 5.3. The Tuple Relational Calculus
- 5.4. Domain Relational Calculus
- 5.5. Extended Relational Algebra Operations
- 5.6. Modification of the Database
- 5.7. Views

Unit 6. SQL

- 6.1. Background
- 6.2. Basic Structure
- 6.3. Set Operations
- 6.4. Aggregate Functions
- 6.5. Null Values
- 6.6. Nested Sub-queries
- 6.7. Data Definition Language (DLL)
- 6.8. Embedded SQL

Unit 7. Integrity Constraints

- 7.1. Domain Constraints
- 7.2. Referential Integrity
- 7.3. Assertions
- 7.4. Triggers
- 7.5. Functional Dependencies

Unit 8. Relational Database Design

- 8.1. Pitfalls of Relational Database Design

8.2. Decomposition
8.3. Normalization using Functional Dependencies
8.4. Normalization using Multi-valued Dependencies
8.5. Normalization using Join Dependencies
8.6. Domain Key Normal Form
8.7. Alternative Approaches to Databases Design

Unit 9. Special Issues in Database Management

9.1. Security and Integrity
9.2. Remote Backup System
9.3. Real Time Transaction System
9.4. Data Warehousing
9.5. The World Wide Web
9.6. Human Information Processing
9.7. Decision Support System

Recommended Books:

Modern Database Management (Latest Ed)
By: Fred R. McFadden, Jeffery A. Hoffer

Database System Concepts (3rd Ed)
By: Silberschatz, A; Korth, H.F; Sudarshan

An Introduction to Database Systems
By: Date,C.J. Addison-Welsey Publishing Company 1990

*****