ALLAMA IQBAL OPEN UNIVERSITY, ISLAMABAD
(Department of Computer Science)

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 ASSIGNMENT(S) BORROWED OR STOLEN FROM OTHER(S) AS ONE'S OWN WILL BE PENALIZED AS DEFINED IN "AIOU PLAGIARISM POLICY".**

Course: Databases-I (3410)   **Semester: Autumn, 2013**
Level: BS (CS)   **Total Marks: 100**

ASSIGNMENT No. 1
Units: (1 – 4)

Note: All questions are compulsory. Each question carries equal marks.

Q. 1   a)   What is meant by "Databases"? Define and explain it with the help of at least three examples.

b)   Briefly explain the different types of databases with the help of suitable examples.

Q. 2   What are important factors in selecting a file organization? Give a brief discussion on important file organizations.

Q. 3   The figure below shows a class list for AIOU. Convert this user view to a set of 3NF relations. Assume the following:
a)   An instructor has a unique location.
b)   A student has a unique major.
c)   A course has a unique title.

Allama Iqbal Open University Class List Spring 2012			
Course Code: 3400 **Course Title:** Fundamental of Computers **Instructor Name:** A.B.C **Instructor Location:** R-0001			
Student ID.	**Student Name**	**Major**	**Grade**
25210	AA	SE01	A +
23735	BC	DF02	B +
27265	CD	SFE03	C +
27399	DE	DB04	D +
…	…	…	…

Q. 4 a) What do you mean by referential integrity? Give the basic rules for insertion and deletion that assure referential integrity.
b) What are the major differences between primary key and foreign key? Explain it in detail with the help of suitable examples.

Q. 5 Write a short note on the following terms:
a) Entity
b) Attributes
c) Cardinality
d) Categorization

ASSIGNMENT-2
Units: (5 – 8)

Total Marks: 100

Note: All questions are compulsory. Each question carries equal marks.

Q. 1 a) Define logical database model. What are its types? Explain it in detail with the help of suitable examples.
b) Define physical database design. Explain its main components and major objectives in detail.

Q. 2 a) Write down steps to create a simple form application to maintain information of employees of a company.
b) Explain briefly the four basic components of a report?

Q. 3 What do you mean by a report object navigator and object type? Give list of different report object types and their description.

Q. 4 a) What is meant by a form object type? Give list of different object types and their description.
b) Explain some of the important SQL functions with the help of examples.

Q. 5 Write a short note on the following terms:
a) Radio Groups
b) Layout Editor
c) Form Module
d) Conceptual Design

Database-I (3410)   Credit Hours: 4 (3+1)

Recommended Book:
Modern Data Base Management by Jeffery A. Hoffer and Oracle Developer/2000

Course Outlines:
Unit No. 1 Database Foundation
Introduction, Data and Information, Components, Advantages, Data Association, Entities, Keys and Its Types, Attributes, Data Associations, Data Structure Diagram

Unit No. 2 E-R Model
Basic Constructs (Symbols), Degree of Relationships, Cardinality, Gerund, Modeling time Dependent Data, Super Types, Subtypes

Unit No. 3 Data Models
Hierarchical, Network, Relational, Comparison of All Data Models, Relation, Characteristics of Relation, Converting E-R Model into Relation

Unit No. 4 Normalization
1NF, 2NF, 3NF

Unit No. 5 Data Base Design
Conceptual Design, Physical Design

Unit No. 6 SQL Introduction
Introduction, Creating, Altering & Deleting Table, Inserting, Updating, & Deleting Rows, Querying The Tales, SQL Functions (Arithmetic, Group (Avg, Count, Max, Min, Sum), Date, Special functions (In, Between, Like, Null)), Managing Multiple Tables

Unit No.7 Introduction to Forms
Form Components, Form Module, Blocks, Items, Objects, Object Navigator, Properties Window, Layout Editor

Unit No. 8 Basic Form Design
Using Wizard for From Design, Customizing a Form, Defining Items (Buttons, Check Boxes, Display Items, List Items, Radio Groups, Text Items), Creating LOV, Creating Master Detail Form

Unit No. 9 Introduction to Report
Report Design Considerations, Report Objects, Basic Report Design