THE OPEN UNIVERSITY OF SRI LANKA
DEPARTMENT OF MATHEMATICS & COMPUTER SCIENCE
B.Sc. DEGREE PROGRAMME : LEVEL 04
CPU2241- DATABASE MANAGEMENT SYSTEMS
NO BOOK TEST I – 2016/2017

DURATION:One and Half Hours (1 ½ Hours)

Date: 30.04.2017 **Time: 4.00 p.m. – 5.30 p.m.**

Answer All Questions.

QUESTION 01

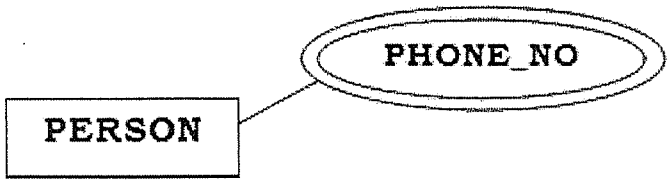
1. State the difference between **Data** and **Information**.
2. Fill in the blanks with suitable words.
    a) Database is a collection of ..... data.
    b) We called the database and the ..... together as a database system.
    c) A poorly designed database is likely to become a breeding ground for ..... data.
    d) Data ..... is the lack of data integrity.
    e) A DBMS that supports a databases located at a single site is called a ..... DBMS.
    f) A DBMS that powers a database primarily designed to support immediate response transactions is classified as a ..... DBMS.
    g) ..... is the language used to describe the contents of the database.
    h) A ..... is a collection of logical constructs used to represent the data structure and the data relationships found within the database.
    i) ..... expresses the specific number of entity occurrences associated with one occurrence of the related entity.
    j) A ..... relationship exists when three entities are associated.
3. What is meant by **data management**?
4. What are the two conditions need to be satisfied by a **weak entity** in an **E**ntity **R**elationship **D**iagram?
5. Give definitions for the following.
    a) Primary key
    b) Composite key
    c) Candidate key

QUESTION 02

1. What are the five types of users in a database system and briefly explain the task of them?
2. State whether these statements are **true** or **false**. If **false** state why?
    a) Domain of an attribute is visible in an **E**ntity **R**elationship **D**iagram.
    b) An entity cannot exist without the entity with which it has a relationship is existence dependency.
    c) The term data warehouse is used to describe the database design favoured by transactional DBMS.
    d) If a single-user database runs on a personal computer, it is called desktop database.
    e) Database administrators are the architects of the database.
3. Give definitions for the following
    a) Unary relationship
    b) Binary relationship
    c) Ternary relationship
4. Define the term **"Cardinality"** and briefly describe it by using an example?
5. What are the two relationship participations in an **E**ntity **R**elationship **D**iagram and describe each with an example.

QUESTION 03

1. According to the classification of "The number of users", what are the two types of database management systems?
2. Give definitions for the following and give one example for each.
    a) Composite attribute.
    b) Simple attribute.
    c) Derived attribute.
3. Following is a part of an **E**ntity **R**elationship **D**iagram.



    a) What is the name for the above attribute?
    b) Can you implement the above part of the **ERD** in the relational **DBMS** exactly in the same way?
    c) If the answer is "**NO**" for the above part (b), show the two possible methods by using diagrams.