

**Goa Vidyaprasarak Mandal's
Gopal Govind Poy Raiturcar College of Commerce and Economics
Farmagudi, Ponda-Goa.**

B.C.A. (Semester - III) Examination – October 2013

DATABASE MANAGEMENT SYSTEMS

Duration : 2 hours

Marks : 50

Instructions : A.) *All the questions are compulsory.*
B.) *Draw neat diagrams with pencil wherever required.*

- I. 1. State whether the following statement are True or False. (1mk x 5 = 5 mks)
- a) Procedural DML require a user to specify what data are needed and how to get those data.
 - b) Update objects in the database is an example of DDL.
 - c) In Structural independence, the structure of the file can be changed without affecting data access.
 - d) In Network model, records are organized as collection of trees.
 - e) ORDBMS means Object Relational Database Management Systems.
2. Answer the following. (1mk x 5 = 5 mks)
- a) What is a Domain-Key Normal Form ?
 - b) What is a transaction ?
 - c) What is a Schedule ?
 - d) What is a Full Functional Dependency ?
 - e) What is Join Dependencies ?
- II. 1. Explain the Data Access Mechanism. (2 mks)
2. Explain the comparison between Logical Data Independence and Physical Data Independence. (3 mks)
3. Explain – ODBC provides a standard software interface for accessing DBMS. (5 mks)

- III. 1. Explain the Network Data Model. (2 mks)
2. Explain the types of data supported by the Multimedia database. (3 mks)
3. Explain the various properties of ACID. (5 mks)
- IV. 1. Explain the Mobile Database. (2 mks)
2. Explain – The purpose of a Conceptual Model is to establish the Entities, the Attributes and the high level relationships. (3 mks)
3. Explain the required procedure to convert a 3NF into a BCNF with an appropriate example. (5 mks)
- V. 1. Explain – Good decomposition must preserve functional dependencies. (2 mks)
2. Explain the Referential Integrity with an example. (3 mks)
3. SONY ERICSION – a mobile company, undertakes various mobile projects. Each project is assigned to at least one employee. Each employee has to work on at least one project. On a project many employees can work. Each employee has one job classification. Considering the above information, identify and write the entities, attributes, relationships and types of keys involved for SONY ERICSION company and then, draw the corresponding ER Diagram. (5 mks)
