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BICS-038

**DIPLOMA VIEP COMPUTER SCIENCE AND
ENGINEERING**

Term-End Examination

June, 2013

BICS-038 : DATABASE MANAGEMENT SYSTEM

Time : 2 hours

Maximum Marks : 70

Note : Attempt any five questions. Question No.1 is compulsory. All questions carry equal marks.

Choose the correct answers :

7x2=14

1. (a) The overall description of the database is known as :
- (i) Instance
 - (ii) Schema
 - (iii) Snapshot
 - (iv) None of the above
- (b) AN ER-model was introduced by :
- (i) E.F codd
 - (ii) P.P Chen
 - (iii) Constantine
 - (iv) None of the above
- (c) Entity sets are nothing else but :
- (i) Relations
 - (ii) DBMS
 - (iii) Attributes
 - (iv) None of the above

- (d) An association between two attributes of the same table is known as :
 - (i) ID (ii) MVD
 - (iii) FD (iv) None of the above
- (e) A transaction must be :
 - (i) Small (ii) Large
 - (iii) Active (iv) Atomic
- (f) BCNF stands for Boyce - codd Normal form (True/False)
- (g) DML stands for Data Mapping Language. (True/False)

- 2. (a) Define Database Management System (DBMS). Differentiate between Database management system and File system. 2+5
- (b) Explain the difference between primary key, candidate key and super key. 7
- 3. (a) What are Integrity constraints ? Explain them. 7
- (b) Discuss the different relational Algebra operator. Explain with the help of suitable example. 7
- 4. (a) What is outer join operation ? 4
- (b) Explain the concept of cursor. 5
- (c) Discuss five aggregate functions with a suitable example. 5

5. (a) What is Normalization ? Explain First, second and third normal form with an example. 9
- (b) Is BCNF stronger than 3 NF ? Justify your answer. 5
6. (a) What is FD ? How is it different from MVD ? Explain with examples. 2+5
- (b) Draw an E - R Diagram for hospital management system. 7
7. (a) Explain ACID properties with an example. 5
- (b) How schedules can be tested for serializability ? Explain with example. What are the different techniques used for testing serializability ? 2+3+4
8. Write short notes on **any four** of the following :
- (a) Dead Lock 4x3.5=14
- (b) Triggers
- (c) Hash Based Indexing
- (d) Forth normal form
- (e) Active database
- (f) Instance and schemes
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