Roll No				 		

Total No. of Pages : 02

Total No. of Questions : 09

BMCI (2014 & Onwards) (Sem.–3) RELATIONAL DATABASE MANAGEMENT SYSTEM Subject Code : BMCI-301 M.Code : 72582

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

- 1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
- 2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
- 3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

- 1. Answer briefly :
 - (a) Give the architecture of DBMS.
 - (b) Write the properties of Hierarchical database model.
 - (c) What is the significance of Object oriented database?
 - (d) What is weak entity set?
 - (e) WhatisOLAP?
 - (f) Define transaction transparency.
 - (g) What is heterogeneous DBMS?
 - (h) List some database administration tools.
 - (i) What are the properties of DSS database?
 - (j) What are the ways to securer the database?

SECTION-B

- 2. Define the following with respect to an ER diagram. Explain the manner in which each is mapped to a table. Illustrate with an example.
 - (a) Relationship set
 - (b) Aggregation.
- 3. Briefly describe the requirements for DSS database.
- 4. Explain the following terms with significant examples :
 - (a) A read or write transaction
 - (b) A read only transaction
- 5. Define check point and its impact on data base recovery.
- 6. Define the distributed database. What are the different functions of the distributed database? Explain also.

SECTION-C

- 7. What do you understand by the terms deadlock and starvation in database transaction? Explain the different approaches to deal with these problems.
- 8. Suppose you are given a relation R = (A,B,C,D,E) with the following functional dependencies : { $CE \rightarrow D, D \rightarrow B, C \rightarrow A$ }.
 - (a) Find all candidate keys.
 - (b) Identify the best normal form that R satisfies (1NF, 2NF, 3NF, or BCNF).
 - (c) If the relation is not in BCNF, decompose it until it becomes BCNF.

At each step, identify a new relation, decompose and re-compute the keys and the normal forms they satisfy.

- (a) Compare shadow paging with log based recovery methods.
- 9.

(b) Discuss the need for data analysis.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.