



Code No. : 6113/S

**FACULTY OF INFORMATICS**  
**B.E. 3/4(IT) I Sem. (Suppl.) Examination, July 2014**  
**DATABASE MANAGEMENT SYSTEMS**

Time: 3 Hours]

[Max. Marks: 75

**Note :** Answer *all* questions from Part – A, and *any five* questions from Part – B.

**PART – A (25 Marks)**

1. List different types of data models. 2
2. What are disjoint and overlapping constraints ? 3
3. List the fundamental relational algebra operations with their symbolic representation. 3
4. Define view and give one example. 3
5. Write the basic syntax to assign authorization to a user. 2
6. Write Armstrong's axioms. 2
7. Distinguish between B-tree and B<sup>+</sup>-tree. 3
8. Specify ACID properties. 2
9. Define two-phase locking. 2
10. Define check-point and where it is used ? 3

**PART – B (50 Marks)**

11. a) Draw and explain various components of a database system. 6  
b) What are the functions of a database administrator ? 4
12. a) Explain extended E-R features. 6  
b) Write about different types of join operations with an example. 4
13. a) Write a complex query using the with clause. What are its advantages ? 5  
b) Explain integrity constraints with examples. 5
14. a) Write about embedded SQL. 5  
b) Compute canonical cover for the following set of functional dependencies. 5  
     $A \rightarrow BC$              $A \rightarrow B$   
     $B \rightarrow C$               $AB \rightarrow C$
15. a) How to implement atomicity and durability in databases ? 5  
b) Explain view serializability. 5
16. a) Discuss in detail timestamp based protocols. 6  
b) Write about ARIES recovery method. 4
17. Write short notes on :
  - a) Aggregation 2
  - b) Bitmap Indices 4
  - c) Deadlock recovery. 4