

# [Additional Exam]

FYBSc (I.T.)  
DBMS

VCD\_F.Y.B.S.C (I.T.) - DBMS - SEM-II - 2014-15 - 75 - 2½ HRS

28/05/2015

**Q.1 Attempt any Two.**

[10]

- a) What is the role of DBA?
- b) What do you mean by DBMS? What are its applications?
- c) Explain the operation of two-tier client/server architecture for RDBMS.
- d) Write a short note on views of data.

**Q.2 Attempt any Two.**

[10]

- a) Explain evolution process of data model.
- b) What are the Basic building blocks of a data model?
- c) Write a short note on Business Rules.
- d) What are the different degrees of data abstraction?

**Q.3 Attempt any Two.**

[10]

- a) Construct an E-R diagram for a hospital with a set of patients and a set of medical doctors. Associate with each patient a log of the various tests and examinations conducted.
- b) What do you mean by Normalization? Explain it with all normal forms.
- c) Explain the types of attributes used in ER model. Illustrate with proper examples.
- d) What do you mean by UML? Briefly explain any two diagram of it.

**Q.4 Attempt any Two.**

[10]

- a) Explain various set operations used in Relational Algebra.
- b) Write a short note on Relational Algebra.
- c) What is the difference between calculus and algebra?
- d) Explain Projection and Rename operation with proper example.

**Q.5 Attempt any Two.**

[10]

- a) What do you mean by trigger? Explain it with example.
- b) How views provides security to the data?
- c) What are the basic data types available for the attributes in SQL?
- d) Consider following tables:

Book ( bookid, bookname, author, publisher)

Orders(orderno, orderdate, qty, amt, bookid)

Solve following queries:

- i) Display the authors whose name starts with 'R' and 'M' as third letter.
- ii) Find the number of copies ordered for each book.
- iii) Create a view showing maximum of ordered amount and minimum of ordered amount.

**Q.6 Attempt any Two.**

[10]

- a) Write a short note on Transaction State.
- b) Briefly explain conflict serializability.

- c) Write a short note on deadlock. Explain deadlock prevention schemes.
- d) How concurrency is achieved in the database?

**Q.7 Attempt any Three.**

**[15]**

- a) What are the different types of database end users? Discuss the main activities of each.
- b) Explain different types of data models.
- c) What do you mean by Weak Entity Sets?
- d) Explain tuple relational calculus.
- e) How to add foreign key constraint and Uniqueness constraint in the table?
- f) What do you mean by transaction? Explain ACID properties of transaction.

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