FYIT
DBMS Sem II

VCD_F.Y.B.S.C (I.T.) –DBMS –SEM-II - 2014-15 – 75 -2½HRS VCD 160315

Q.1 Attempt any two. [10]

a) Explain the three-tier client/server architecture. Where it is used?
b) What do you mean by data abstraction? Also explain different views of data.
c) What is the role of DBA?
d) Explain all types of database users.

Q.2 Attempt any two. [10]

a) Explain the importance of data model.
b) Explain different types of data models.
c) What is the process of evolution of data model?
d) What are the different degrees of data abstraction?

Q.3 Attempt any two. [10]

a) What is Unified Modelling Language? Explain Class Diagram and Use Case Diagram.
b) Write a short note on Primary Key Constraint and Foreign Key Constraint.
c) Explain different types of mapping cardinalities used in ER model.
d) What are the features of good relational database design?

Q.4 Attempt any two. [10]

a) Explain tuple relational calculus.
b) How to perform a join and renaming using relational algebra?
c) Differentiate calculus versus algebra.
d) Write a short note on Relational Algebra.

Q.5 Attempt any two. [10]

a) What do you mean by a subquery ? Give query example of it.
b) What are views? How views provide security of data?
c) Explain all aggregate functions used in SQL.
d) Consider following tables:

Student (rollno, sname, marks, city,classid)
Class(classid, classname, capacity)

Solve following queries:

i)Display student details having marks is in the range of 70 to 80.
ii) Create a view showing the details of student enrolled in each class.
iii) Display student details along with their class details in which they enrolled.

Q.6 Attempt any two. [10]

a) Write a short note on Transaction state.
b) Explain Timestamp Ordering Protocol.
c) What do you mean by serializability? Explain view serializabity.
d) Explain Two Phase Locking protocol.

Q.7 Attempt any Three. [15]

a) How a database approach differs from the traditional file system?

b) Write a short note on Business Rules.

c) 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.

d) Write a short note on domain relational calculus.

e) What do you mean by Join? Explain Right Outer Join and Full Outer Join with proper example.

f) Write a short note on deadlock. Explain deadlock prevention schemes.