A.T.K.T. Libro/

2015-16

VCD- 280915 -DBMS--FYIT--SEM-II--75 MARKS-2 ½ HRS.

Note: i) All questions are compulsory.
ii) Figures to the right indicate full marks.
iii) Give query example wherever necessary.

Q.1 Attempt any two. [10]

a) How a database approach differs from the traditional file system?
b) Explain the three-tier client/server architecture. Where it is used?
c) What is the role of DBA?
d) Explain all types of database users.

Q.2 Attempt any two. [10]

a) What is the process of evolution of data model?
b) Explain different types of data models.
c) Explain the importance 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 Activity Diagram and Use Case Diagram.
b) Write a short note on Primary Key Constraint and Check Constraint.
c) Explain different types of participation constraint used in ER model.
d) What are the features of good relational database design.

Q.4 Attempt any two. [10]

a) Explain various set operations used in Relational Algebra.
b) How to perform a join and renaming using relational algebra?
c) Write a short note on domain relational calculus.
d) Write a short note on Relational Algebra.

Q.5 Attempt any two. [10]

a) What do you mean by Join? Explain Equi-Join and Full Outer Join with proper example.
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) What do you mean by data abstraction? Also explain different views of data.

b) Write a short note on Business Rules.

c) Construct an E-R diagram for the college. Student takes admission in the college for the particular course. Course contains various subjects. College has teachers. Teacher teaches subjects. College has library. Library contains books. Students issue book.

d) Differentiate calculus versus algebra.

e) What do you mean by a subquery ? Give query example of it.

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