

R07
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Code: R7211506

B.Tech II Year I Semester (R07) Supplementary Examinations, May 2013

**DATABASE MANAGEMENT SYSTEMS**  
(Computer Science & Systems Engineering)

Time: 3 hours

Max. Marks: 80

Answer any FIVE questions  
All questions carry equal marks

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- 1 (a) What is a data model? Explain in detail about the relational data model.  
(b) Explain in detail about DDL and DML commands.
- 2 (a) What is an ER diagram? Explain it with various symbols used in it in detail.  
(b) Draw and explain an ER diagram for an airline reservation system.
- 3 (a) What are views? Explain in detail about altering tables and views.  
(b) Explain about the tuple and domain relational calculus in detail.
- 4 Consider the following schema:  
Sailors (sailor-id, sailor-name, sailor-rating, sailor-age).  
Boats (boat-id, boat-name, boat-color).  
Reserver (sailor-id, boat-id, day).  
Write the nested queries in SQL.  
(a) Find the names of sailors who have reserved for boat number 2222.  
(b) Find the names of sailors who have reserved a blue boat.  
(c) Find the names of sailors who have not reserved a green boat.  
(d) Find the names of sailors with highest age.
- 5 (a) Explain first and second normal forms with an example.  
(b) Explain in detail about the multi valued dependencies.
- 6 (a) What is a transaction? Explain ACID properties associated with a transaction.  
(b) Explain in detail about the timestamp based protocols.
- 7 (a) Explain in detail about the log based recovery.  
(b) Explain the failures with loss of non volatile storage devices.
- 8 (a) Explain in detail about the hash based indexing with an example.  
(b) Write a short note on indexed sequential access methods.

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