

Seat No.	
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SF - 484

Total No. of Pages : 2

T.E. (Information Technology) (Semester - V)
Examination, November - 2017
DATA BASE ENGINEERING (Revised)
Sub. Code : 66301

Day and Date : Saturday, 11 - 11 - 2017

Total Marks : 50

Time : 09.30 a.m. to 11.30 a.m.

- Instructions :
- 1) Figures to the right indicate full marks.
 - 2) Answer any 2 questions from Questions 1, 2 & 3. ✓
 - 3) Answer any 2 questions from Questions 4, 5 & 6.

Q1) a) List and explain pitfalls in relational database design. [7] ✓

b) Describe the methods to transform an E - R diagram of generalization to tabular form. [6] ✓

Q2) a) Explain Views in relational model. [6] ✓

b) Consider the following relational schema and Give an expression in the Relational Algebra to express each of the following queries :

loan (loan - number, branch - name, amount)

borrower (customer - name, loan - number)

depositor (customer - name, account - number)

i) Find the customers who have both an account and a loan. [2] 6

ii) Find the customers who have loan at 'Perryridge' branch. [2]

iii) Delete all loans from loan relation with amount in the range 0 to 50. [2]

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[2 × 6 = 12]

Q3) Attempt any two.

- a) What is Data abstraction? Explain three levels of data abstraction with example. C
- b) What is Normalization? Explain Boyce - Codd Normal form (BCNF). C
- c) Explain the Basic Structure of SQL in brief and explain set operations in SQL with example. C

Q4) a) Explain dense index and sparse index with example. [7]

b) Explain implementation techniques for variable length records. [6]

Q5) a) Explain immediate database modification recovery scheme with example. [6]

b) What is Access control? Explain in detail Mandatory access control. [6]

Q6) Write short notes on (any two)

[2 × 6 = 12]

- a) Multiple Granularity 6
- b) Shadow paging. 6
- c) Discretionary access control. 6

