SV - 208

Seat No.	

Total No. of Pages : 2

T.E. (Computer Science and Engineering) (Semester - VI) (Revised) Examination, May - 2019

Database Engineering

Sub. Code : 66860

Day and Date : Friday, 17 - 05 - 2019 **Total Marks : 50**

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

Instructions : 1) **Attempt any two questions from question no. 1, 2 and 3.**
2) **Attempt any two questions from question no. 4, 5 and 6.**
3) **Figures to the right indicate full marks.**

Q1) a) What are the different levels of data abstraction? [6]

b) Explain the following : [7]

i) Super key ii) Primary Key

iii) Candidate Key iv) Foreign Key

Q2) a) Write SQL queries to perform given tasks on following schema. [6]

Sailors(sid: integer, sname: string, rating: integer, age: real)

Boats(bid: integer, bname: string, color: string)

Reserves(sid: integer, bid: integer)

i) Find the names of sailors who have reserved at least one boat

ii) Find the names of sailors who have not reserved a red boat

iii) Find the name and age of the oldest sailor

iv) Find the age of youngest sailor who is at least 18 years old

b) Explain different data models. [6]

Q3) a) Find closure and canonical cover for given set of functional dependencies. [6]

$\{A \rightarrow B, A \rightarrow C, CG \rightarrow H, CG \rightarrow I, B \rightarrow H\}$

b) Compare 3NF with BCNF. [6]

P.T.O.

Q4) a) Compare ordered indexing with hashing. Give index definition in SQL. [6]

b) What are the different physical storage media used for data storage? Compare all with respect to performance and cost. [6]

Q5) a) Explain two phase locking protocol with its variants. [6]

b) Explain conflict serializability and view serializability. [6]

Q6) a) Explain timestamp ordering protocol for concurrency control. [6]

b) Explain log based recovery mechanism. [7]

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