Total No. of Questions : 10]

SEAT No. :

P3636

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[5560]-592
T.E. (IT) DATABASE MANAGEMENT SYSTEM
(2015 Course) (Semester - I)

Time : 3 Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Neat diagrams must be drawn wherever necessary.***
2) ***Black figures to the right indicate full marks.***
3) ***Your answers will be valued as a whole.***
4) ***Assume suitable data, if necessary.***
5) ***All questions are compulsory.***

Q1) a) Specify codd's Norms to be satisfied by RDBMS? **[5]**

b) Explain the problems that may arrive if the DBA doesnot discharge the responsibilities properly? **[5]**

OR

Q2) a) Explain different Join operations in Relational Algebra with suitable example. **[6]**

b) What is Normalization? State & explain 2NF & 3 NF. **[4]**

Q3) a) What are the possible causes of transaction failure? Explain siganificance of ACID properties. **[5]**

b) Why is query optimization importent for databases? **[5]**

OR

Q4) a) What are the issues in determinig lock granularity? What is multiple granularity. **[5]**

b) Explain the motivations for using news. Is it possible to update news? **[5]**

P.T.O.

Q5) a) What is the basis of immediate updates recovery technique? What does the deterred updates recovery technique involve? **[8]**

b) Explain major objectives of distributed database design. **[8]**

OR

Q6) a) What are the different techniques of data replication? Explain with suitable example. **[8]**

b) Explain the concept of log & how it helps with database recovery with suitable diagram. **[8]**

Q7) a) Define JSON. What is the rule for writing JSON? Differentiate between JSON and XML. **[10]**

b) What is mobile database? state the functionality required for mo database. **[8]**

Q8) a) What are XML namespaces? How to solve name conflict? **[6]**

b) Write a short note on : (any 3) **[12]**

i) Cloud databases

ii) Internet data bases

iii) HBase Data model

iv) HDFS

Q9) a) What is motivation behind supervised classification? What is training data set? In what situations can this technique be useful? How can a decision free be constucted? **[8]**

b) Explain the significance of machine learning to Big data. Give applications. **[8]**

OR

Q10)a) Define & explain Data mining. What are major applications of data mining? **[8]**

b) Define Big Data? Explain the characteristics of Big data. **[8]**

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