

Code No: R1631054

R16**SET - 1****III B. Tech I Semester Supplementary Examinations, May - 2019****DATA BASE MANAGEMENT SYSTEMS**

(Common to Computer Science Engineering, Information Technology)

Time: 3 hours

Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)2. Answer **ALL** the question in **Part-A**3. Answer any **FOUR** Questions from **Part-B**

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**PART -A**

1. a) What is the role of Database Designers? [2M]
- b) What is a weak entity in ER diagram? [2M]
- c) Compare Row level trigger with Statement level trigger [3M]
- d) Write the Augmentation Rule for multivalued dependencies. [3M]
- e) What is a Dirty Read? [2M]
- f) How does a database index work? [2M]

**PART -B**

2. a) With a neat diagram, explain the structure of Database Management System. [10M]
- b) What is data independence and how does a DBMS support it? Explain. [4M]
3. a) Give the diagrammatic representation of recursive relationship in an ER diagram and also explain the importance of role names in representing a recursive relationship by taking a real time example. [8M]
- b) Explain the Division operator of Relational algebra with a suitable example. [6M]
4. a) How would you use the operators IN, EXISTS, UNIQUE, ANY and ALL in writing nested queries? Why are they useful? Explain with an example. [7M]
- b) What is a Trigger? And what are its three parts? Explain the differences between Triggers and Integrity constraints. [7M]
5. a) What are the problems caused by redundantly storing information? Explain [4M]
- b) Given Relation,  $R=(A,B,C,D,E,F,G)$  and Functional Dependencies [10M]  
 $F=\{ \{A,B\} \rightarrow \{C\}, \{A,C\} \rightarrow \{B\}, \{A,D\} \rightarrow \{E\}, \{B\} \rightarrow \{D\}, \{B,C\} \rightarrow \{A\}, \{E\} \rightarrow \{F\} \}$ .  
Check whether the following decomposition of R into  
 $R_1=(A,B,C)$ ,  $R_2=(A,C,D,E)$  and  $R_3=(A,D,F)$  is satisfying the lossless Decomposition property.
6. a) Discuss Write – Ahead log protocol. [7M]
- b) Consider the following schedule of three transactions [7M]  
 $T_1: r_1(X), w_1(X); \quad T_2: w_2(X); \quad \text{and} \quad T_3: w_3(X)$   
Schedule S:  $r_1(X); w_2(X); w_1(X); w_3(X);$   
Check whether the Schedule S is view equivalent to any serial schedule or not? Give Justification to your answer with neat explanation.
7. a) Explain about the measures that are to be considered for comparing the performance of various file organization techniques. [7M]
- b) What are the benefits of using dynamic indexing? Explain in detail B+ tree file organization. [7M]

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