T.E. (Computer) (Sem VI) (CBSGS)

(3 Hours) [Total Marks: 80]

Note:

1. Question No.1 is Compulsory.
2. Attempt any 3 questions out of the remaining Questions.
3. Make suitable Assumptions whenever necessary.
4. All question carry equal marks.

Q 1. a) Define Distributed Database System? List advantages of it? [5]
      b) Explain Distributed Database Design Issues? [5]
      c) Compare homogenous and heterogeneous databases? [5]
      d) List applications of XML. [5]

Q 2. a) Draw and Explain Model of Transaction Management in DDB. [10]
      b) Describe clearly Two Phase Commit (2PC) Protocol. [10]

Q 3. a) Explain any one Timestamp Based Concurrency Control Mechanisms in DDB. [10]
      b) Explain types of fragmentation? Perform Primary Horizontal Fragmentation of relation Department looking for departments located at different site and accesses department information according to funds one site access <=30,0000 and other site access >30,0000. [10]

DNo	DName	Funds	Loc
D001	HR	235,000	NY
D002	Development	410,000	NY
D003	Testing	300,000	UK
D004	Maintenance	350,000	UK

Q 4. a) University Database contains information about the course and the Professors who teach the courses in each semester. Each course must also have information about the number of student enrolled, room no., date and time (when and where the course is conducted) [10]
        i. Create an XML Schema (.xsd) for above XML documents
        ii. Write XQuery for the following: Retrieve Course name which was conducted on 25/02/19 at 11.15 a.m.
      b) What are the various kinds of transparencies in distributed database design? Explain each with the help of an example. [10]

Q 5. a) Explain Phases in Distributed Query Processing in Distributed Database? [10]
      b) Explain Wait Die and Wound Wait Method with the help of an example? [10]

Q 6. a) Explain Distributed Database Architecture with neat diagram. [10]
      b) List and Explain anomalies of Concurrency Control in distributed system? [10]

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