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**SRINIVASA RAMANUJAN INSTITUTE OF TECHNOLOGY**

**MODEL QUESTION PAPER**

**SRIT R19**

**(AUTONOMOUS)**

II B. Tech I Sem – Semester End Examinations – Regular – Mar 2021

**DATA BASE MANAGEMENT SYSTEMS**

**[194GA05301]**

**(Computer Science and Engineering)**

**Time: 3 hours** **Max. Marks: 70**

**PART-A**

(Compulsory Question)

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| --- | --- | --- | --- | --- |
| 1 |  | | Answer the following: (10 X 02 = 20 Marks) | |
|  | a) | | Define Database | |
|  | b) | | Draw three-tier database Architecture. | |
|  | c) | | What is meant by foreign key? Give example. | |
|  | d) | | Define Domain Relational Calculus. Give the General Form. | |
|  | e) | | What are attributes? Give examples. | |
|  | f) | | Define multivalued functional dependency. | |
|  | g) | | What are wait/die and wound/wait schemas? | |
|  | h) | | What is immediate database modification and deferred database modifications? | |
|  | i) | | What is indexing and what are the different kinds of indexing? | |
|  | j) | | Mention any two differences between linear and extendible hashing. | |
| **PART-B**  (Answer all five units, 5 X 10 = 50 Marks) | | | | |
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| **UNIT-1** | | | | |
| 2 | a) | Draw and Explain Database Architecture. | | **[5M]** |
|  | b) | Describe the Functions of a DBA. | | **[5M]** |
| OR | | | | |
| 3 | Explain the advantages of using a DBMS over File Processing System. | | | **[10M]** |
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| **UNIT-2** | | | | |
| 4 | Explain data manipulation commands in SQL with syntax and examples. | | | **[10M]** |
|  |
| OR | | | | |
| 5 | Employee(Person\_name, street, city)  Works(person\_name, company\_name, salary)  Company(company\_name, city)  Using the above relational database express the following queries in relational algebra notations.  a. Find the names of all the employees who live in city “Miami”.  b. Find the names of all the employees whose salary is greater than $100,000  c. Find the names of all the employees and who live in “Maimi” and whose salary is greater than $100,000. | | | **[10M]** |
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| **UNIT-3** | | | | |
| 6 | Explain 1NF, 2NF, 3NF and 4NF with suitable example. | | | **[10M]** |
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| OR | | | | |
| 7 | Construct an E-R Diagram for a car insurance company whose customers own one or more cars each. Each car has associated with its zero to any number of recorded accidents. Each insurance covers one or more cars, and has one or more premium payments associated with it. Each payment is for a particular period, and has an associated due date, and the date when the payment was received. | | | **[10M]** |
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| **UNIT-4** | | | | |
| 8 | Explain about how concurrency can be controlled using time stamp methods. | | | **[10M]** |
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| OR | | | | |
| 9 | Explain Remote backup Systems. | | | **[10M]** |
|  |
| **UNIT-5** | | | | |
| 10 | Explain about several types of ordered indexes. | | | **[10M]** |
|  |
| OR | | | | |
| 11 | Briefly explain about B+ tree index file. | | | **[10M]** |
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