**Academic Year: 2021-2022 (Even Semester)**

**BE (CSE) CIE –II**

Subject: DBMS Subject Code:PC403CS

Semester: 4 Section: 1,2,3 Time: 1 hr

Faculty: GSS,MVRJ,KKL Marks: 20

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| Q.No. | Part – A (3 x 2 = 6 Marks) | Max  Marks | CO | BL | PIs |
| 1. | Draw sparse index using any example. | 2 | 3 | 1,2 | 3.6.1 |
| 2. | Define ACID properties with example. | 2 | 4 | 1,2,3 | 6.3.1 |
| 3. | Define Trigger with syntax. | 2 | 5 | 1,2 | 4.6.1 |

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| Q.No. | Part – B (2 x 7 = 14 Marks) | Max  Marks | CO | BL | PIs |
| 4. | a) Explain any three Extended Relational algebra operations.  b) What is the purpose of creating view. | 4  3 | 4  4 | 1,2,3  1,2 | 1.2.1  4.6.3 |
| 5. | a) Construct a B+-tree for the following set of key values:  (2, 3, 5, 7, 11, 17, 19, 23, 29, 31, 43, 51)  where the number of pointers that will fit in one node is Four.  b) Write short notes on Multi-level Indexing. | 4  3 | 3  3 | 1,2,5,6  1,2 | 3.7.1  3.6.1 |
| 6. | a) Explain Two phase locking protocol.  b) How do we test for conflict serializability explain considering suitable example.  **(OR)**  a) Write short notes on NULL values.  b) Explain multimedia databases. | 3  4  3  4 | 3  3  5  5 | 1,2,3  1,2  1,2,3  1,2 | 2.8.2  3.8.3  4.6.3  4.6.4 |

***LEGEND:*** *BL – Bloom’s Taxonomy Levels (1- Remembering, 2- Understanding, 3 – Applying, 4 –Analysing, 5 – Evaluating,*

*6 - Creating); CO – Course Outcomes ; PIs– Performance Indicators such as 1.2.1/13.1*