**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. | Write relational algebra expression for the following select statement:  Select empno,ename,sum(sal) from EMP group by deptno. | 2 | 4 | 1,2,3,5 | 1.2.1 |
| 2. | Draw dense index using any example. | 2 | 3 | 1,2,6 | 3.6.1 |
| 3. | Write short notes on NULL values. | 2 | 5 | 1,2,3 | 4.6.3 |

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| Q.No. | Part – B (2 x 7 = 14 Marks) | Max  Marks | CO | BL | PIs |
| 4. | a) Explain any three Fundamental Relational algebra operations.  b)What is the purpose o f creating views. | 4  3 | 4  4 | 1,2,3  1,2,3 | 1.2.1  4.6.3 |
| 5. | a) Write short notes on bitmap indices.  b) Construct a B+ tree of order 4 for the given set of values – 4,13,18,24,28,39,44,55,67,84,88,93. | 3  4 | 3  3 | 1,2,5  1,2,3,6 | 4.6.2  3.7.1 |
| 6. | a) Draw transaction state diagram and explain transaction states.  b) How do we test for view serializability explain considering suitable example.  **(OR)**  a) Define Trigger and write the syntax of it.  b) Explain parallel databases. | 3  4  3  4 | 3  3  5  5 | 1,2  1,2,4  1,2,3  1,2 | 2.8.2  3.8.3  4.6.1  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*