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B.E Semester: III Computer Engineering/Information Technology

Subject code: CE/IT 305

Subject Name: Database Management System

Date: _____

Time: _____

Total Marks: 30

Instructions:

1. Answer each section in separate Answer sheet.
2. All questions are **compulsory**.
4. Indicate **clearly**, the options you attempt along with its respective question number.
5. Use the last page of main supplementary of **rough work**.

Section-I

- Q-1 (A) Consider following relations: 5
- Supplier(S#,sname,status,city)
Parts(P#,pname,color,weight,city)
SP(S#,P#,quantity)
Answer the following queries in SQL.
- (1) Find suppliers whose name start with 'AB'
 - (2) Find all suppliers whose status is 10, 20 or 30
 - (3) Sort the Parts table by weight of the part
 - (4) Delete records from parts table whose City is Surat
 - (5) Drop color field from Parts table
- (B) Explain various advantages of Database Management System compare to File Processing system 5
- Q-2 (A) Why do we Normalize a Relation? Explain 1NF and 2NF with Example 5
- (B) Explain in Brief 5
- (a) Functional Dependency and Transitive Dependency
 - (b) Different Types of Failures in Database

OR

- Q-2 (A) Explain in Brief 5
- (a) Advantages of Concurrent Execution of Transaction
 - (b) Draw and Explain Transaction State diagram
- (B) Explain in Brief 5
- (a) Types of Locks and Lock - Compatibility Matrix
 - (b) Wait-Die and Wound-Wait
- Q-3 (A) Draw E-R diagram for supplier who supplies different parts. The parts are used in different projects. Define the mapping cardinality. Assume suitable attributes. 5
- (B) (a) Why we do Join operations? Explain Types of Join operations 5
- (b) Explain Difference between Procedure and Function

OR

- Q-3 (A) Draw and Explain Symbols used in E-R Diagram and Draw the E-R diagram of Library Management System 5
- (B) Explain in Brief 5
- (a) Lossless Join and Multivalued Attributes
 - (b) Necessity of taking database backups