AMCN-22 DISTRIBUTED SYSTEMS

UNIT-1 INTRODUCTION
1.1 Distributed data processing, what is a DDBS; Advantages and disadvantages of DDBS;
1.2 Problem areas; Overview of database and computer network concepts Distributed Database Management System Architecture Transparencies in a distributed
1.3 DBMS; Distributed DBMS architecture; Global directory issues

UNIT-2 DISTRIBUTED DATABASE DESIGN
2.1 Alternative design strategies; Distributed design issues;
2.2 Fragmentation; Data allocation Semantics Data Control: View management; Data security;
2.3 Semantic Integrity Control Query Processing Issues: Objectives of query processing;
2.4 Characterization of query processors; Layers of query processing;
2.5 Query decomposition; Localization of distributed data

UNIT-3: DISTRIBUTED QUERY OPTIMIZATION:
3.1 Factors governing query optimization; Centralized query optimization; Ordering of fragment queries; Distributed query optimization algorithms Transaction Management:
3.2 The transaction concept; Goals of transaction management; Characteristics of transactions; Taxonomy of transaction models
3.3 Concurrency Control: Concurrency control in centralized database systems; Concurrency control in DDBSs;
3.4 Distributed concurrency control algorithms; Deadlock management

UNIT-4 RELIABILITY
4.1 Reliability issues in DDBSs; Types of failures;
4.2 Reliability techniques; Commit protocols; Recovery protocols

UNIT-5: PARALLEL DATABASE SYSTEMS
5.1 Parallel architectures;
5.2 Parallel query processing and optimization; load balancing

UNIT-6: ADVANCED TOPICS
6.1 Mobile Databases,
6.2 Distributed Object Management,
6.3 Multi-databases

References Books:
1. Principles of Distributed Database Systems, M.T. Ozsu and P. Valduriez, Prentice-Hall, 1991.
2. Distributed Database Systems, D. Bell and J. Grimson, Addison-Wesley, 1992.