

RAMAKRISHNA MISSION VIDYAMANDIRA

CBCS Syllabus B.Sc. Computer Science General

Even Semester (II / IV)

Course Code: CMSGE2 Credit: 6

Course Type: General Elective

Course Outcome:

- i) To understand utility of database in implementing industry applications.
- ii) To be able to implement database driven solution using SQL platform.
- iii) To develop basic understanding of computer networks.
- iv) To able to develop WebPages and develop understanding of Internet technologies.

CMSGE2 T: Computer Network and DBMS

Credit: 4

Group A: Database Management Systems (30 L)

Introduction to Database Management Systems: Characteristics of database approach, datamodels, DBMS architecture and data independence. (5L)

Entity Relationship and Enhanced ER Modeling: Entity types, relationships, SQL-99: Schema Definition, constraints, and object modeling. (7L)

Relational Data Model: Basic concepts, relational constraints, relational algebra, SQL queries. (8L)

Database design: ER and EER to relational mapping, functional dependencies, normal forms up to third normal form. (10L)

Group B: Computer Network and Internet Technologies (30 L)

Basic Concepts: Component of Data Communication; Standards and Organization; Network classification; Network topologies; Network protocols, Layered network architecture; Overview of OSI reference model, overview of TCP/IP protocol suite. (10L)

Network Layer: IP Addressing, Subnetting, Basic concepts of Routing, Virtual Circuit and Datagrams. (8L)

Application Layer: Application Layer protocols and services, DNS, HTTP, WWW, telnet, FTP, SMTP, Network Security Basics, Web Documents. (12L)

CMSGE2 P: Web Programming and DBMS Laboratory

Credit: 2

Group A: Database Management Systems Laboratory (20 L)

DDL Commands: create, alter, drop

DML Commands: select, update, delete, insert; Condition specification using Boolean and comparison operators, Arithmetic operators, Multiple table queries, Nested select queries, Set manipulation.

Group B: Web Programming Laboratory (20 L)

Static and dynamic webpage development: HTML, Javascript, CSS, PHP/JSP/ASP.

Recommended Books:

1. Database System Concepts by Henry F. Korth and Silberschatz Abraham; Mc.Graw Hill.
 2. Database System Design by Elmasri, Navathe, Somayajulu, Gupta; Pearson.
 3. Data Communications and Networking by Behrouz A. Forouzan, 4th Edition; TMH.
 4. Data and Computer Communication by William Stallings, 6th Edition; Pearson.
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