

## CS402

### ADVANCED DATABASE MANAGEMENT SYSTEMS

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1. **Concepts** - EER-to-Relational mapping - Integrity constraints in data modeling - Review of normalization theory - Review of file structures and access methods.
2. **Basic Algorithms** - Use of heuristics - Optimization algorithm - Heuristic optimization of query graphs - Using cost estimations in query optimization.
3. **More Concepts** - Concurrent execution - Implementation of atomicity, durability - Isolation - Recoverability - Serializability of schedules - Testing for conflict - Serializability - View serializability.
4. **Lock-based protocols** - Timestamp-based protocols - Validation-based protocols - Multiversion schemes - Deadlock handling.
5. **Log-based recovery** - Buffer management - Recovery with concurrent transactions - Recovery techniques - Shadow paging.
6. **Database System Architectures** - Parallel databases - Advanced transaction processing - Emerging database applications - Recent trends and developments.

#### TEXT:

- A.SILBERSCHATZ, H.F.KORTH, S.SUDARSHAN, "Database System Concepts", IV Ed, McGraw Hill, 2000
- R.ELMASRI, S.B.NAVATHE, "Fundamentals of Database Systems", III Ed., Pearson Education, 2000

## HM402

### INDUSTRIAL ECONOMICS

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1. **Industrial Economics** - Elasticity of demand and supply - Consumption laws - Types of competitions - Keynesian employment theory - Production, planning and control.
2. **Money Banking & Financial Management** - Functions of commercial and central banking - The problem of foreign exchange - Sources of industrial finance - Management accounting.
3. **General Management** - Principles of management - Scientific management - Advanced techniques in management: MBE, MBO, MBC, MBP, MIS - Quantitative techniques in management.
4. **Marketing Management** - Definition of marketing - Market research - Need for marketing - Sales forecasting - Product life cycle - Market segmentation.
5. **Personnel Management & Industrial Psychology** - Selection and recruitment - Training and development - Job evaluation and merit rating - Worker participation - Quality - Work life.

#### TEXT:

- GUPTA, G.S., "Managerial Economics", Tata McGraw Hill, 1993 Edn.
- RASAD, L.N., "Principles of Management Theory and Practice", Sultan & Chand, 1992 Edn.
- DAVAR, S.R., "Personal Management & Industrial Relations", Vikas Publishing (P) Ltd., 1993 Edn.