DATA BASE MANAGEMENT SYSTEM

Code: SC**3.5**   Univ Code:

Contact Hours: 56   Work load: **4 hours per week**

Credits: 4

Evaluation: Continuous Internal Assessment – **30 Marks**

                              Semester-End Examination   – **70 Marks**

Objectives:

Pedagogy:

Module1:   **Introduction:** Entities, attributes and relationship, Files and databases, History of database Management systems, Database processing, Functions provided by DBMS, Data Dictionary, DBMS users, Database Administrator, Structure of a DBMS, types of DBMS's Advantages and Disadvantages of DBMS.

Module2:   **Database Architecture and Data Modeling:** Conceptual, physical and logical database models, data independence, E-R model.

Module3:   **Relational Database Model: RDBMS:** terminology.   The relational data structure, domain constraints, Functional Dependency, Candidate key, primary key and foreign key, integrity rules.   Data Normalization: Definition of normalization, First Normal Form, Second Normal Form, Third Normal Form, Boyce-Codd Normal Form.

Module4:   **Structured Query Language (SQL):** Database creation, simple retrieval, compound conditions, computed fields, sorting, built-in functions, nesting, grouping queries, joining tables, union, updating tables, views and indexes.

Module5:   **Backup and Recovery:** Database backups, importance of backups, causes of failures, database recovery, recovery facilities, recovery techniques.

Recommended Books

1. Philip.J Pratt and Joseph J. Adamski, Concepts of Database Management, 3rd Edition, Thomson Learning-Vikas Publication House (2002).
2. C.J Date, An Introduction to Database Systems, 7th Edition, Addison-Wesley
3. RameezElmasri and Shamkant B. Navathe, Fundamentals of Database Systems, Addison-Wesley (1994).
4. Sanjay Saxena, MS Office 2000 for every one, Vikas Publishing (2001).
5. MS-OFFICE Manual.

Practicals: Practical: 2 Hrs/week   I.A Max. Marks: 20

Studying features of a MS-Access package and Structured Query Language. Defining a scheme for application - creation of database, modification and updation of database, writing SQL Queries to retrieve information from the database. Forms and reports generation. Writing simple applications like accounting for a shop, Personal Accounts- Insurance, Loans, Mortgage payments, Hotel Accounting, Admission etc.

Note: The internal assessment marks (Maximum Marks 20) shall be awarded by the concerned course-teacher based on the two practical tests of 2 hours duration each conducted by him/her during one semester.