# SARDAR PATEL UNIVERSITY
## Programme: Bachelor of Vocation (Software Development)
## Semester: III
## Syllabus with effect from: June 2015

| Paper Code: US03FBVS04 | **Total Credits: 4** |
|---|---|
| **Title Of Paper:** Database Concepts and Data Structures (Effective from: June 2016) (Revised) | |

| Unit | Description in detail | Weightage (%) |
|:---:|---|:---:|
| 1 | **Introduction to DBMS:**<br>Basics of databases & Database Management System – meaning, components, advantages, disadvantages<br>Concepts of database, fields, records<br>Creation of a database file<br>Data types<br>Modify structure of a database file | 25 % |
| 2 | **Working with Database Files & Advanced Features:**<br>Adding, listing, editing, replacing and deleting data<br>Sorting vs Indexing<br>Searching<br>Arithmetic functions, Date and time functions, String manipulation functions, Logical functions, Database related functions, Miscellaneous functions<br>Creating, editing and executing command files<br>Making decision<br>Loops<br>Working with multiple database files at a time<br>Reports | 25 % |
| 3 | **Introduction to Data Structures:**<br>Introduction to data structures, their usage, applications and advantages<br>Primitive and non-primitive data structures and operations on them<br>Linear and non-linear data structures<br>Introduction to stacks, operations on stacks<br>Applications of stacks | 25 % |
| 4 | **Queues and Linked Lists:**<br>Queues and their uses<br>Types of queues : Simple queues, Circular queues, Double ended queues<br>Introduction to linked lists<br>Types of linked lists<br>Singly linked lists, Doubly linked lists, Circular linked lists<br>Applications of linked lists | 25 % |

**Basic Text & Reference Books:**

- Desai, Bipin C.: Introduction to database systems, West Publishing Co., 1990.
- R. K. Taxali.: Programming in FoxPro 2.5, BPB Publication.
- Manual of DBMS Package.