DEPARTMENT OF COMPUTER SCIENCE
Dyal Singh College, University of Delhi

(ACADEMIC SESSION, 2023-24)

Course: GE (2ⁿᵈ Part/ 3rd Semester)
Paper Code and Name: Database Management Systems   (TH)

FACULTY

Name of Teacher: Dr. Vishnu Shankar
Contact:9927637449   **Email**: vishnushankar.cs@dsc.du.ac.in

ASSESSMENT DETAILS
Total Marks for the course is 120, comprising following components
- **CA:**
- **IA: 30**

TEACHING PLAN

(Theory on sharing basis- Following teaching plan is in accordance with 1 theory period allocated per week)

Week	Topics Covered/ Assignments/ Test/Presentations
1-2	Unit 1 - Introduction to Database: Database, characteristics of database approach, data models, database management system, three-schema architecture
3-4	components of DBMS, data independence, and file system approach vs. database system approach
5-6	Unit 4 – Structured Query Language (SQL): DDL to create database and tables, table constraints, DML querying in SQL to retrieve data from the database
7-8	Aggregation functions group by and having clauses, generate and query views.
9-10	Unit 3 - Relational Data Model: Data anomalies, Relational Data Model - Characteristics of a relation, schema-instance distinction
11-12	types of keys, relational integrity constraints.
13-14	Relational algebra operators like selection, projection
15-16	Cartesian product, join and write simple queries using them

DEPARTMENT OF COMPUTER SCIENCE
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(ACADEMIC SESSION, 2023-24)

Course: B.Sc. (Hons.) Computer Science
Paper Code and Name: Operating system   (TH)

FACULTY

Name of Teacher: Dr. Vishnu Shankar
Contact:9927637449   **Email**: vishnushankar.cs@dsc.du.ac.in

ASSESSMENT DETAILS

Total Marks for the course is 120, comprising following components

- **CA**
- **IA: 30**

TEACHING PLAN

(Theory on sharing basis- Following teaching plan is in accordance with 1 theory period allocated per week)

Week	Topics Covered/ Assignments/ Test/Presentations
1-2	Operating System, Definition and its purpose, Time sharing, Multiprogramming and Multiprocessing, Operating System Operations
3-4	Operating System Services, User and Operating System Interface, System Calls and its Types.
5	Operating system Design and Structure, System Programs, System Boot, Process
6	Operations on Processes, Inter process communication, Shared memory.
7	Multithreading Models, Multicore Programming, Thread Libraries
8	Process Scheduling criteria, Process Scheduling Algorithms, Multiple Processor Scheduling.
9	Process Synchronization, Critical Section Problem, Semaphores
10	Deadlock Characterization, Methods for handling deadlocks.
11-12	Memory Allocation Strategies-Fixed and Variable partition, Swapping, Logical and Physical Address Space, Paging, Structure of Page Table and its Variations, Shared pages, Segmentation
13	Virtual memory, Page Replacement Algorithms, Allocation of frames, Thrashing, Working set model.

14-15	File System, File Characteristics, Access methods, Directory and Disk structure, File system structure and implementation, Directory implementation, Free space Implementation, File Allocation methods
16	Overview of Secondary Devices, Disk Scheduling Algorithms

DEPARTMENT OF Computer Science
Dyal Singh College, University of Delhi

(ACADEMIC SESSION, 2023-24)

Course: Generic Electives: Computer Science (V Semester)
Paper Code and Name: Web Design using HTML5 (BSCS09B**)**   **(TH)**

FACULTY

Name of Teacher: Dr. Vishnu Shankar
Contact:9927637449   **Email**: vishnushankar.cs@dsc.du.ac.in

ASSESSMENT DETAILS
Total Marks for the course is 50, comprising following components
- **CA**
- **IA : 25**

TEACHING PLAN

Week	Topics Covered/ Assignments/ Test/Presentations
Week 1 - 3	Unit I - Introduction: Introduction to HTML: What is HTML, HTML Documents, Basic structure of an HTML document, creating an HTML document, markup tags, heading-paragraphs, line breaks, HTML tags.
Week 4 - 6	Unit 2 - Elements of HTML: Introduction to elements of HTML, working with text, lists, tables, frames, hyperlinks, images, multimedia, forms and controls.
Week 7-10	Unit 3-Introduction to Cascading Style Sheets: Concept of CSS, Creating Style Sheet, CSS Properties, CSS Styling (Background, Text Format, Controlling Fonts), Working with block elements and objects, Working with Lists and Tables, CSS Id and Class, Box Model(Introduction, Border properties, Padding Properties, Margin properties).
Week 11 - 13	Unit 4-CSS Advanced: CSS Advanced (Grouping, Dimension, Display, Positioning, Floating, Align, Pseudo class, Navigation Bar, Image Sprites, Attribute sector), CSS Color.
Week 14 - 15	Unit 5-Web Designs: Creating page Layout and Site Designs.