PROGRAMME: THREE-YEAR DEGREE
B Com (Computer Applications)

Domain Subject: Commerce
Semester-wise Syllabus under CBCS(w.e.f. 2020-21 Admitted Batch)

I Year B Com (CA), Semester – I
Discipline: COMPUTER APPLICATIONS

Course 3F:Database Management System

(Five units with each unit having 12 hours of class work)

Model Outcomes for Database Management System

At the end of the course, the students is expected to DEMONSTRATE the following cognitive abilities (thinking skill) and psychomotor skills.

F. *Remembers and states in a systematic way (Knowledge)*

1. Understand the role of a database management system in an organization.
2. Understand basic database concepts, including the structure and operation of the relational data model.
3. Understand and successfully apply logical database design principles, including E-R diagrams and database normalization
4. Understand Functional Dependency and Functional Decomposition

G. *Explains (Understanding)*

5. To design and build a simple database system and demonstrate competence with the fundamental tasks involved with modeling, designing, and implementing a DBMS.
6. Perform PL/SQL programming using concept of Cursor Management, Error Handling, Packages

H. *Critically examines, using data and figures (Analysis and Evaluation)*

7. Apply various Normalization techniques
8. Model an application's data requirements using conceptual modeling tools like ER diagrams and design database schemas based on the conceptual model

D. Working in 'Outside Syllabus *Area' under a Co-curricular Activity*(Creativity)
Design and implement a small database project

E. Construct simple and moderately advanced database queries using Structured Query Language (SQL)(Practical skills)

Syllabus Approved 6/1/21

A. Madhavi 16/1/21

SYLLABUS

Course 4F: Database Management System

Unit	Details
I	**Overview of Database Management System** Introduction, Data and Information, Database, Database Management System, Objectives of DBMS, Evolution of Database Management System, Classification of Database Management System.
II	**File-Based System** File Based System. Drawbacks of File-Based System, DBMS Approach, Advantage of DBMS, Data Models, Components of Database System, Database Architecture, DBMS Vendors and their products.
III	**Entity-Relationship Model:** Introduction, The Building Blocks of an Entity-Relationship, Classification of Entity Set, Attribute Classification, Relationship Degree, Relationship Classification, Generalization and Specialization, Aggregation and Composition, CODD's Rules, Relational Data Model, Concept of Relational Integrity.
IV	**Structured Query Language** Introduction, History of SQL Standards, Commands in SQL, Data types in SQL, Data Definition Language (DDL),Selection Operation Projection Operation, Aggregate Functions, Data Manipulation Language, Table Modification, Table Truncation, Imposition of Constraints, Set Operations.
V	**PL/SQL:** Introduction, Structure of PL/SQL,PL/SQL Language Elements, Data Types, Control Structure, Steps to Create a PL/SQL Program, Iterative Control Cursors, Steps to Create a Cursor, Procedure, Functions, Packages, Exceptions Handling, Database Triggers, Types of triggers.

Syllabus Approved : 6/1/21 A. Madhavi 16/1/21

Learning Resources (Course 4F: Database Management System)

References:

1. Paneerselvam:Database Management system,PHI.
2. David Kuklinski, Osborne, Data management system McGraw Hill Publication.
3. Shgirley Neal And Kenneth LC Trunik Database management system in Business-PHI.
4. Godeon C. EVEREST, Database Management-McGraw Hill Book Company.
5. MARTIN,Database Management-Prentice Hall of India, New Delhi.
6. Bipin C.Desai ,`An Introduction to Database System`,Galgotia Publications
7. Korth, Database Management System.
8. Navathe, Database Management System.
9. S. Sumathi, S. Esakkirajan,Fundamentals of Relational Database Management System

Online resources:

http:// www.onlinegdb.com/

http:// www.tutorialspoint.com/

http://learnsql.com

https://www.codecademy.com/learn/learn-sql/

https://www.w3schools.com/sql/default.asp

Practical Component: @ 2 hours/week/batch

1. Create tables department and employee with required constraints.
2. Initially only the few columns (essential) are to be added. Add the remaining columns separately by using appropriate SQL command.
3. Basic column should not be null
4. Add constraint that basic should not be less than 5000.
5. Calculate hra, da, gross and net by using PL/SQL program.
6. The percentage of hra and da are to be stored separately.
7. When the da becomes more than 100%, a message has to be generated and with user permission da has to be merged with basic.
8. Empno should be unique and has to be generated automatically.

Syllabus Approved: 6/1/21 A. Madhavi 16/1/24

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity)
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams)
4. Field studies (individual observations and recordings as per syllabus content and related areas (Individual or team activity)
5. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity)

General

3. Group Discussion
4. Visit to Software Technology parks / industries

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted:

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Coding exercises,
4. Practical assignments and laboratory reports,
5. Observation of practical skills,
6. Individual and group project reports,
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work

Syllabus Approved : 6/1/21 A. Madhai 16/1/21