

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.
(With Effect from Academic Year 2018-'19)

| | | | |
|-------------------------|-------------------|----------------------|---------------------|
| COMPUTER SCIENCE | CCSC 506C | 2018-'19 | B.Com.(C.A.) |
| SEMESTER – V | PAPER – VI | Max. Marks 75 | |

Syllabus DATA BASE MANAGEMENT SYSTEMS

NO Of Hours: 5

No Of Credits: 3

Pass Marks 30

Course Objective: Design & develop database for large volumes & varieties of data with optimized data processing techniques.

Unit – 1: Database Systems Introduction 12Hrs

Database Systems: Introducing the database and DBMS, Why the database is important, *Historical Roots:* Files and File Systems, Problems with File System, Data Management, Database Systems. *Data Models:* The importance of Data models, Data Model Basic Building Blocks, The evaluation of Data Models.

Unit - II: Relational Database & Data Modelling 12 Hrs

The Relational Database Model: A logical view of Data, Keys, Integrity Rules, Relational Set Operators, Indexes, Codd's relational database rules. *Entity Relationship Model:* The ER Model

Advanced Data Modelling: The Extended Entity Relationship Model, Entity clustering.

Unit-III: Normalization and Database Design 14 Hrs

Normalization of database tables: Database Tables and Normalization, The need for Normalization, The Normalization Process, High level Normal Forms, Normalization and database design, de normalization.

Unit-IV: Structured Query Language 12 Hrs

Introduction to SQL: Data Definition Commands, Data Manipulation Commands, Select queries, Advanced Data Definition Commands, Advanced Select queries, Virtual Tables, SQL Join Operators,

Unit-V: Procedural SQL 10 Hrs

Introduction to PL/SQL : Triggers, Stored Procedures, PL/ SQL Stored Functions

Prescribed Text Book:

- 1. Peter Rob, Carlos Coronel, Database Systems Design, Implementation and Management, Seventh Edition, Thomson (2007).**

Reference Books:

1. Elimasri / Navathe, Fundamentals of Database Systems, Fifth Edition, Pearson Addison Wesley
2. Raman A Mata – Toledo/Panline K Cushman, Database Management Systems, Schaum's Outlibe series, Tata McGraw Hill (2007).
3. C.J.Date, A.Kannan, S.Swamynathan, An Introduction to Database Systems, Eight edition, Pearson Education (2006).
4. "DatabaseSystemConcepts" by AbrahamSilberschatz, Henry Korth, and S.Sudarshan, McGrawhill
5. Atul Kahate, Introduction to Database Management Systems, Pearson Education (2006).

Student Activity:

1. Create your college database for placement purpose.
 2. Create faculty database of your college with their academic performance scores
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SEMESTER – V

PAPER – VI

Max. Marks 75

Model Paper

DATA BASE MANAGEMENT SYSTEMS

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No Of Credits: 3

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Section-A

Answer any **FIVE** Questions. Each question carries **FIVE** Marks **4x5=25M**

1. Explain the Components of Database System.
2. Explain Entity Relationship Model .
3. Write about Relational Set Operators.
4. Explain Integrity rules.
5. Describe BCNF.
6. Write about D Normalization.
7. Write about Special Functions.
8. Explain Stored Procedures.

Section-B

Answer any **FIVE** Questions. Each question carries **TEN** Marks **5X10=50M**

9. What is File? Explain the problems with File system
10. Explain any three different Data Models
11. Explain E.F.CODDs' rules.
12. Explain Extended Entity Relationship Model.
13. Explain the concept of Normal Forms.
14. Explain different join operators
15. Explain DDL and DML commands.
16. Explain about triggers.

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Guidelines for paper setting '**DATA BASE MANAGEMENT SYSTEMS**'

Unit wise weightage of Marks

| | Section-A (Short answer questions) | Section-B (essay questions) |
|--------|---------------------------------------|--------------------------------|
| Unit-1 | 2 | 2 |
| Unit-2 | 2 | 2 |
| Unit-3 | 2 | 2 |
| Unit-4 | 1 | 1 |
| Unit-5 | 1 | 1 |

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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| COMPUTER SCIENCE | CCSC-505P | 2018-'19 | B.Sc.(MPCS, MCCS) |
| SEMESTER – V | PAPER – IV | Max. Marks 50 | |
| Lab List | DATA BASE MANAGEMENT SYSTEMS | Pass Marks 25 | |
| No. of Hours per week: 2 | External: 25 | Internal: 25 | |

Credits: 2

1. Creation of college database and establish relationships between tables
2. Explain various data type in Oracle.
3. Show the structure of the Emp table.
4. Show the structure of the DEPT table.
5. Explain the syntax of SELECT statement.
6. Create a query to display the name, job, hiredate and employee number from emp table.
7. Create a query to display unique jobs from the emp table.
8. Create a query to display the empno as EMP#, ename as EMPLOYEE and Hire_date from emp.
9. Create a query to display all the data from the EMP table. Separate each column by a comma and name the column THE_OUTPUT.
10. Create a query to display the name and salary of employees earning more than 2850.
11. Create a query to display the name and salary for all employees whose salary is not in the range of 1500 and 2850.
12. Display the employee name, job and start date of employees hired between February 20, 1981 and May 1, 1981. Order the query in ascending order of start date
13. Display the employee name and department number of all the employees in departments 10 and 30 in alphabetical order by name.
14. List the name and salary of employees who earn more than 1500 & are in department 10 or 30.
15. Display the name, salary and commissions and sort data in descending order of salary and commission.
16. Display the name and job title of all employees who do not have a manager.
17. Display the name, job and salary for all employees whose job is Clerk or Analyst and their salary is not equal to 1000, 3000 or 5000.
18. Display the names of all employees where the third letter of their name is an 'A'.
19. Display the names of all employees who have two 'L's in their name and are in department 30 or their manager is 7782.
20. Display the name, salary and commission for all employees whose commission amount is greater than their salary increased by 10%.
21. Explain all the character functions.
22. Explain all the number functions.

23. Explain all the Date functions.

Create Student database using the following tables.

STUDENT: Sno : primary key, number Sname : NOT NULL, varchar2 Address:
Varchar2

COURSE: Sno : Foreign key. Course Name : varchar2

Queries:

1. Alter table by adding a column fees in table COURSE.
2. Alter table by modifying the address to VARCHAR2(20)
3. Create a view on which the students who joined in one course only.

PL/SQL.

1. Write A Pl/Sql Program To Swap Two Numbers Without Using Third Variable.
2. Write A Pl/Sql Program To Generate Multiplication Tables For Numbers 2,4 And 6
3. Write A Pl/Sql Program To Display Sum Of Even Numbers And Sum Of Odd Numbers In The Given Range.
4. Write A Pl/Sql Program To Check The Given Number Is Pollinndrome Or Not.
5. Write A Pl/Sql Program To Display Top 10 Rows In Emp Table Based On Their Job And Salary.

Reference Books:

1. Oracle Pl/Sql By Example. Benjamin Rosenzweig, Elena Silvestrova, Pearsoneducation 3rd Edition
2. Sql & Pl/Sql For Oracle 10g, Black Book, Dr.P.S. Deshpande

