

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	CSC-501C	2018-'19	B.Sc.(MPCs)
-------------------------	-----------------	-----------------	--------------------

SEMESTER – V

PAPER – V

Max. Marks 75

Syllabus

DATA BASE MANAGEMENT SYSTEMS

NO Of Hours: 4

No Of Credits: 3

Pass Marks 30

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

Unit – I: 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, Degree of Data Abstraction.

Unit - II: Relational Database & Data Modelling

12 Hrs

The Relational Database Model: A logical view of Data, Keys, Integrity Rules, Relational Set Operators, The Data Dictionary and the system Catalog, Indexes, Codd's relational database rules. *Entity Relationship Model:* The ER Model *Advanced Data Modelling:* The Extended Entity Relationship Model, Entity clustering, Entity integrity.

Unit- III: Normalization and Database Design

14 Hrs

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

Database Design: The Information System, The Systems Development Life Cycle, The Database Life Cycle, Centralized Vs Decentralized design.

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, Sub queries and correlated queries, SQL Functions.

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, .
2. C.J.Date, A.Kannan, S.Swamynathan, An Introduction to Database Systems, Eight edition,
3. “DatabaseSystemConcepts” by AbrahamSilberschatz, Henry Korth, and S.Sudarshan,
4. 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

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

COMPUTER SCIENCE	CSC-501C	2018-‘19	B.Sc.(MPCs)
SEMESTER – V	PAPER – V	Max. Marks 75	
<u>Model Paper</u>	DATA BASE MANAGEMENT SYSTEMS		
<u>NO Of Hours: 4</u>	<u>No Of Credits: 3</u>	Pass Marks 30	

Section-A

Answer any **FIVE** Questions. Each question carries **FIVE** Marks **5x5=25M**

1. Explain the Components of Database System.
2. Explain Relational Data Model.
3. Write about Relational Set Operators.
4. Explain Integrity Rules.
5. Describe BCNF.
6. Differences between Centralized and Decentralized design.
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 the Degree of Data Abstraction.
11. Explain E.F.CODDs' rules.
12. Explain Extended Entity Relationship Model.
13. Explain the concept of Normal Forms.
14. Explain about SDLC.
15. Explain DDL and DML commands.
16. Explain about triggers.

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

COMPUTER SCIENCE	CSC-501C	2018-'19	B.Sc.(MPCs)
SEMESTER – V	PAPER – V	Max. Marks 75	Pass Marks 30

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

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.

An Autonomous college within the jurisdiction of Krishna University A.P, India.

(With Effect from Academic Year 2018-'19)

COMPUTER SCIENCE	CSC-501P	2018-'19	B.Sc.(MPCS)
-------------------------	-----------------	-----------------	--------------------

SEMESTER – V

PAPER – V

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.
24. Explain different types of JOIN.

25. Write a query to display the name, department number and department name for all employees.
26. Create a unique listing of all jobs that are in department 30. and include the location of department 30 in the output.
27. Write a query to display the employee name, department name and location of all employees who earn a commission.
28. Write a query to display the name ,job department number and department name for all employees who work in 'DALLAS'.
29. Create a query to display the name and hire date of any employee
30. hired after employee BLAKE.
31. . Display all employees names and hire dates along with their manager's name and hire date for all employees who were hired before their managers.
32. Create your own users and give permissions to you and explain GRANT and REVOKE Commands.

A. Create MOVIE database using the following tables.

MOVIE: Movie no: primary key, varchar2 Movie name: NOT NULL, varchar2
 Type: varchar2 Star: Varchar2

CUSTOMER: Customer No: primary key, varchar2 Customer Name: NOT NULL,
 varchar2

Address: NOT NULL Phone no: Number INVOICE: Invoice no: Varchar2,
 primary key Movie no: foreign key Customer no: foreign key
 Price: NOT NULL, Number

Queries:

1. List the movie names that starts with 'p'
2. List the number of the movies those price ranges from 15000 and 20000
3. List the customers who have phone numbers.
4. List the customers who have no phone numbers.
5. Display the following string
 - (a) A Customer "customer number" has bought the "movie number" "movie name" with "Price"
6. List the customers by calculating price as $(price * tax) / 100$ where $tax = 0.5$ and rename the column as 'tax'.
7. List the movies, which are owned by 2 customers.
8. List the customers, who bought 2 picture names.
9. List the customers, who are not the range of 15000 and 20000.

B. 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.
6. Write A Procedure Update The Salary Of Employee, Who is Not Getting Commission by 10%.

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

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

COMPUTER SCIENCE	CSC-502C	2018-'19	B.Sc.(MPCs)
-------------------------	-----------------	-----------------	--------------------

SEMESTER – V

PAPER – VI

Max. Marks 75

Syllabus

SOFTWARE ENGINEERING

NO of Hours: 4

No Of Credits: 3

Pass Marks 30

Course Objectives

The Objective of the course is to assist the student in understanding the basic theory of software engineering, and to apply these basic theoretical principles to a group software development project.

UNIT-I: Introduction to Software Engineering & Process 12Hrs

The Evolving Role of Software– Software - The Changing Nature of Software, Software Myths, Legacy Software.

Process: Software Engineering-A Layered Technology - A Process Framework - The Capability Maturity Model Integration (CMMI) - Process Patterns, Process Assessments - Personal And Team Process Models: Personal Software Process(PSP), Team Software Process (TSP).

Unit-II: Process Models 12Hrs

The Waterfall Models - Increment Process Models: The Increment Model, The RAD Model - Evolutionary Process Models: Prototyping, The Spiral Model, The Concurrent Development Model - The Unified Process: Phases of The United Process, Unified Process Work Products.

Unit-III: Requirements Engineering 14 Hrs

Requirements Engineering Tasks - Initiating The Requirements Engineering Process - Eliciting Requirements: Collaborative Requirements Gathering, Quality Function Deployment, User Scenarios, Elicitation Work Products - Negotiating Requirements - Validating Requirements.

Unit-IV: Analysis Model 12 Hrs

Requirements Analysis -Analysis Modelling Approaches - Data Modelling Concepts - Object-Oriented Analysis - Scenario-based Modelling - Flow-Oriented Modelling - Class-Based Modelling - Creating a Behavioural Model: Identifying Events with the Use-Case, State Representations.

Unit-V: Design Engineering 10Hrs

Design Process And Design Quality - Design Concepts - The Design Model: Data Design Elements, Architectural Design Elements, Interface Design Elements, Component-Level Design Elements, Deployment -Level Design Elements.

Prescribed Text Book:

1. Software Engineering – A Practitioner’s Approach, Sixth Edition - Roger S Pressman, TATA McGrawHill: Chapters: 1,2,3,7,8 and 9)

Reference Books:

1. Software Engineering Principles and Practice by Deepak Jain Oxford University Press
2. Sommerville, “Software Engineering”, Eighth Edition, Pearson Education, 2007

Student Activity: Visit any financial organization nearby and prepare requirement analysis report 2. Visit any industrial organization and prepare risk chart.

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

COMPUTER SCIENCE	CSC-502C	2018-'19	B.Sc.(MPCs)
SEMESTER – V	PAPER – VI	Max. Marks 75	

Model Paper

SOFTWARE ENGINEERING

NO of Hours: 4

No Of Credits: 3

Pass Marks 30

Section – A

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

1. Write about Software Layered Technology
2. Explain about Process Framework?
3. Explain about RAD Model
4. Explain about Component Based Development Model
5. Write about Requirement Analysis?
6. Explain Validating Requirements
7. Explain about Domain Analysis?
8. Explain about Modularity?

Section – B

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

9. Explain about CMMI
10. Explain about Software Myths
11. Explain about Incremental Model
12. Explain about Unified Process
13. Explain about Requirements Engineering Tasks
14. Explain Eliciting Requirements.
15. Explain Scenario based Modelling.
16. Write about design concepts in design engineering.

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

COMPUTER SCIENCE	CSC-502	2018-'19	B.Sc.(MPCs)
------------------	---------	----------	-------------

SEMESTER – V PAPER – V Max. Marks 75 Pass Marks 30

Guidelines for paper setting '**SOFTWARE ENGINEERING**'

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

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

COMPUTER SCIENCE	CSC-502C	2018-'19	B.Sc.(MPCS)
-------------------------	-----------------	-----------------	--------------------

SEMESTER – V

PAPER – VI

Max. Marks 50

Lab List

SOFTWARE ENGINEERING

Pass Marks 25

No. of Hours per week: 2

External: 25

Internal: 25

Credits: 2

A. ATM

1. Objective of an ATM System.
2. Use-case Diagram of an ATM System
3. Class Diagram of an ATM System
4. Sequence Diagram of an ATM System
5. Activity Diagram of an ATM System
6. State Diagram of an ATM System
7. Deployment Diagram of an ATM System
8. ER Diagram of an ATM System

B. Library management System

1. Objective of Library management System.
2. Use-case Diagram of Library management
3. Class Diagram of Library management System
4. Sequence Diagram of Library management
5. Activity Diagram of Library management System
6. State Diagram of Library management
7. Deployment Diagram of Library management System
8. ER Diagram of Library management

C. Barcode Reader

1. Objective of Barcode Reader
2. Use-case Diagram of Barcode Reader
3. Class Diagram of Barcode Reader
4. Sequence Diagram of Barcode Reader
5. Activity Diagram of Barcode Reader
6. State Diagram of Barcode Reader
7. Deployment Diagram of Barcode Reader
8. ER Diagram of Barcode Reader

D. Safe Home System

1. Objective of Safe Home System.
2. Use-case Diagram of Safe Home System
3. Class Diagram of Safe Home System
4. Sequence Diagram of Safe Home System
5. Activity Diagram of Safe Home System
6. State Diagram of Safe Home System
7. Deployment Diagram of Safe Home System
8. ER Diagram of Safe Home System

E. Online Book Store System

1. Objective of Online Book Store System
 2. Use-case Diagram of Online Book Store System
 3. Class Diagram of Online Book Store System
 4. Sequence Diagram of Online Book Store
 5. Activity Diagram of Online Book Store System
 6. State Diagram of Online Book Store System
 7. Deployment Diagram of Online Book Store System
 8. ER Diagram of Online Book Store
-