

**II YEAR
I SEMESTER**

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING AND TECHNOLOGY
DIGITAL LOGIC DESIGN

Course Code: GR22A2067
II Year I Semester

L/T/P/C: 3/0/0/3

Course Objectives:

1. Comprehend different number systems including the binary system and Boolean algebraic principles.
2. Create minimal realizations of single and multiple output Boolean functions;
3. Design and analyze combinational circuits using medium scale integrated (MSI) components, including arithmetic logic units;
4. Apply strategies for state minimization, state assignment, for the implementation of synchronous Finite State Machines
5. Design of Combinational Programmable Logic Devices (CPLDs) like PROM, PAL, and PLA and develop HDL Models for Logic Circuits.

Course Outcomes:

1. Apply knowledge of fundamental Boolean principles and manipulation to design Logic Circuits.
2. Apply various techniques of Boolean function simplification to create minimal expressions.
3. Create combinational circuits for a specified behavior with minimal specification.
4. Synthesize Sequential circuits with minimal states.
5. Realize combinational circuitry using Combinational PLDs and develop & test HDL models of Logic Circuits.

UNIT I

Binary Systems: Digital Systems, Binary Numbers, Number Base Conversions, Octal and Hexadecimal Numbers, Complements, Signed Binary Numbers, Binary Codes, Binary Storage and Registers, Binary Logic.

Boolean Algebra And Logic Gates: Basic Definitions, Axiomatic definition of Boolean Algebra, Basic theorems and properties of Boolean Algebra, Boolean Functions, Canonical and Standard Forms, Other Logic Operations, Digital Logic Gates, Integrated Circuits.

UNIT II

Gate-Level Minimization: The Map method, Four-variable map, Five-variable map, Product of Sum's simplifications, Don't care conditions, NAND and NOR implementation, other two level implementations, Exclusive-OR Function.

UNIT III

Combinational Logic: Combinational Circuits, Analysis Procedure, Design Procedure, Binary Adder Subtractor, Decimal Adder, Binary Multiplier, Magnitude Comparator, Decoders, Encoders, Multiplexers.

UNIT IV

Synchronous Sequential Logic: Sequential Circuits, Latches, Flip-Flops, Analysis of clocked sequential circuits, State Reduction and Assignment, Design Procedure.

Registers and Counters: Registers, Shift registers, Ripple Counters, Synchronous Counters, other counters.

UNIT V

Memory and Programmable Logic: Introduction, Random Access Memory, Memory decoding, Error detection and correction, Read only Memory, Programmable Logic Array, Programmable Array Logic, Sequential Programmable Devices.

Hardware Description Language: Hardware Description Language, Definition, Structural Definition of HDL, HDL models for Combinational circuits, HDL for models for Sequential circuits.

Teaching Methodologies:

- Power Point Presentations
- Tutorial Sheets
- Assignments

Text Books:

1. Digital Design with an Introduction to the Verilog HDL – Fifth Edition, M. Morris Mano, Pearson Education.
2. Fundamentals of Logic Design – Roth, 7th Edition, Thomson.

References:

1. Switching and Finite Automata Theory by ZviKohavi, Tata Mc Graw Hill.
2. Switching and Logic Design – CVS Rao, Pearson Education
3. Digital Principles and Design – Donald D.Givone, Tata Mc Graw Hill.
4. Fundamentals of Digital Logic and Micro Computer Design, 5th Edition, M.Rafiquzzaman (John Willey)

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING AND TECHNOLOGY

JAVA PROGRAMMING

Course Code: GR22A2068

L/T/P/C: 3/0/0/3

II Year I Semester

Course Objectives:

1. The Java programming language: its syntax, idioms, patterns and styles.
2. Object oriented concepts in Java and apply for solving the problems.
3. How exception handling and multithreading makes Java robust.
4. Explore java Standard API library such as io, util, applet,awt.
5. Building of applications using Applets and Swings.

Course Outcomes:

1. Identify the model of Object-Oriented Programming: Abstract data types, Encapsulation, Inheritance and Polymorphism.
2. Summarize the fundamental features like Interfaces, Exceptions and Collections.
3. Correlate the advantages of Multi-threading.
4. Design interactive programs using Applets, AWT and Swings.
5. Develop real time applications using the features of Java.

UNIT I

Object Oriented Thinking: Introduction, Need of object-oriented programming, principles of object-oriented languages, Applications of OOP, history of JAVA, Java Virtual Machine, Java features, Program structures, Installation of JDK.

Variables, Primitive data types, Identifiers- Naming Conventions, Keywords, Literals, Operators- Binary, Unary and Ternary, Expressions, Primitive Type conversion and casting, flow of control- branching, conditional, loops.

UNIT II

CLASSES, INHERITANCE, POLYMORPHISM:

Classes and Objects: Classes, Objects, creating objects, methods, constructors- constructor overloading, cleaning up unused objects- Garbage collector, class variable and methods- static keyword, this keyword, arrays, Command line arguments, Nested Classes

Strings: String, StringBuffer, StringTokenizer

Inheritance and Polymorphism: Types of Inheritance, deriving classes using extends keyword, super keyword, Polymorphism – Method Overloading, Method Overriding, final keyword, abstract classes.

UNIT III

INTERFACES, PACKAGES, EXCEPTIONS

Interfaces: Interface, Extending interface, interface Vs Abstract classes.

Packages: Creating Packages, using Packages, Access protection, java I/O package. Exceptions - Introduction, **Exception handling Techniques:** try...catch, throw, throws, finally block, user defined Exception.

UNIT IV

MULTITHREADING, COLLECTIONS

java.lang.Thread, the main Thread, creation of new Threads, Thread priority, multithreading- using isalive() and join(), Synchronization, suspending and resuming Threads, Communication

between Threads.Exploring java.io, Exploring java.util

Collections: Overview of Collection Framework : ArrayList, LinkedList, Vector, HashSet, TreeSet, HashMap, HashTable, TreeMap, Iterator, Comparator

UNIT V

APPLETS, AWT AND SWINGS

Applet class, Applet structure, an example Applet program, Applet life cycle.

Abstract Window Toolkit: Why AWT?java.awt package, components and containers, Button, Label, Checkbox, Radio buttons, List boxes, choice boxes, Text field and Text area, container classes, Layout Managers.

Event Handling: Introduction, Event Delegation Model, Java.awt.event Description, Adapter classes, Innerclasses.

Swing: Introduction, JFrame, JApplet, JPanel, Components in swings, JList and JScrollPane, Split Pane, JTabbedPane, Dialog Box, Pluggable Look andfeel.

Teaching Methodologies:

- Power Point Presentations
- Tutorial Sheets
- Assignments

Text Books/ References:

1. Java: The Complete Reference, 10th edition, Herbert Schildt, McGrawHill.
2. Java Fundamentals: A Comprehensive Introduction, Herbert Schildt and Dale Skrien, TMH.
3. Java for Programming, P.J. Dietel Pearson Education
4. Object Oriented Programming through Java, P. Radha Krishna, Universities Press.
5. Thinking in Java, Bruce Eckel, Pearson Education
6. Programming in Java, S. Malhotra and S. Choudhary, Oxford University Press

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING AND TECHNOLOGY
DESIGN AND ANALYSIS OF ALGORITHMS

Course Code: GR22A2077

L/T/P/C: 3/0/0/3

II Year I Semester

Course Objectives:

1. Recall algorithm definition, its properties & performance analysis.
2. Demonstrate a familiarity with major algorithms and data structures.
3. Apply important algorithmic design paradigms and methods of analysis.
4. Evaluate efficient algorithms in common engineering design situations.
5. Understanding performances of various techniques.

Course Outcomes:

1. Distinguish various performances of algorithms.
2. Illustrating Divide and Conquer Design Paradigm algorithms.
3. Examining various algorithms based on Dynamic programming paradigm.
4. Discriminate greedy approach and back tracking algorithms.
5. Demonstrate branch and bound problems and Distinguish problems related to various complexity classes.

UNIT I

Introduction to Algorithms: Definition of an algorithm, properties of an Algorithm, performance analysis--space complexity & time complexity, amortized analysis

UNIT II

Disjoint sets: Disjoint set Representation, Operations, union and find algorithms.

Divide and Conquer: General method, applications, binary search, Quick sort, merge sort, Strassen's matrix multiplication.

UNIT III

Dynamic Programming: General method, applications, optimal binary search trees, 0/1 knapsack problem, All pairs shortest path problem, travelling salesperson problem, optimal rod-cutting-Top down approach and bottom up approach.

UNIT IV

Greedy Method: General method, applications-- job sequencing with deadlines, 0/1 knapsack problem, minimum cost spanning trees, single source shortest path problem, activity selection problem.

Backtracking: General method, applications, n-queen problem, sum of subsets problem, Hamiltonian cycles.

UNIT V

Branch and Bound: General method, applications, travelling sales person problem, 0/1 knapsack problem: LC branch and bound solution, FIFO branch and bound solution

Complexity Classes: Non deterministic algorithms, deterministic algorithms, relationship between P and NP, NP-completeness, circuit-satisfiability problem, 3-CNF satisfiability.

Teaching Methodologies:

- Power Point Presentations
- Tutorial Sheets
- Assignments

Text Books/ References:

1. Ellis Horowitz, SatrajSahni and S Rajasekharam, Fundamentals of Computer Algorithms, Galgotia publishers 2. T H Cormen, C E Leiserson, and R L Rivest, Introduction to Algorithms, 3rdEdn, Pearson Education
2. Cormen, Thomash H., Leiserson, Charles E., Rivest, Ronald L., & Stein, Clifford. Introduction to Algorithms. 3rd Edition. 2010.
3. Goodrich, Michael T. & Roberto Tamassia, Algorithm Design, Wiley Singapore Edition, 2002.

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING AND TECHNOLOGY

DISCRETE MATHEMATICS

Course Code: GR22A2075

L/T/P/C: 2/1/0/3

II Year I Semester

Course Objectives:

1. Provide logical foundations of computer science: propositional logic and predicate logic.
2. Illustrate applications of discrete structures: set theory, relations, functions.
3. Describe different mathematical counting techniques.
4. Use recurrence relations to solve the real-world problems.
5. Illustrate the importance of graph theory and its applications in computer science

Course Outcomes:

1. Use propositional and predicate logic in knowledge representation and truth verification.
2. Demonstrate the application of discrete structures in different fields of computer science.
3. Apply basic and advanced principles of counting to the real-world problems.
4. Able to formulate the problem and solve using recurrence relations and generating functions.
5. Devise the given problem as a graph network and solve with techniques of graph theory.

UNIT I

Mathematical Logic: Statements and notations, Connectives, Well-formed formulas, Truth tables, Tautology, Equivalence implication, Normal forms.

Predicates: Predicative logic, Free & Bound variables, Rules of inference, Consistency, proof of contradiction.

UNIT II

Set Theory: Properties of binary relations, Compatibility, Equivalence and Partial ordering relations, Hasse diagram, Lattice and its properties.

Functions: Inverse function, Composite of functions, Recursive functions, Pigeon hole principle and its application.

Algebraic Structures: Algebraic systems examples and general properties, Semi groups and monads, groups and sub groups' Homomorphism, Isomorphism.

UNIT III

Elementary Combinatorics: Basics of counting, Combinations & Permutations, with repetitions, Constrained repetitions, Binomial coefficients, Binomial and Multinomial theorems, the principle of Inclusion – Exclusion.

UNIT IV

Recurrence Relation: Generating functions, Function of sequences calculating coefficient of generating function, Recurrence relations, solving recurrence relation by substitution, Generating functions and Characteristics roots, solution of Inhomogeneous recurrence relation.

UNIT V

Graph Theory: Representation of graph, Graph theory and applications, Planar graphs, basic concepts of Isomorphism and Sub graphs, Multi graphs and Euler circuits, Hamiltonian graphs, Chromatic numbers, Depth First Search, Breadth First Search, Spanning trees.

Teaching Methodologies:

- Power Point Presentations
- Tutorial Sheets
- Assignments

Text Books/ References:

1. Discrete and Combinational Mathematics- An Applied Introduction-5th Edition— Ralph.P.Grimadi .Pearson Education
2. Discrete Mathematical Structures with applications to computer science Trembly J.P. & Manohar.P,TMH
3. Mathematical Foundations for Computer Science Engineers, Jayant Ganguly,Pearson Education
4. Discrete Mathematics and its Applications, Kenneth H. Rosen, Fifth Edition.TMH.
5. Discrete Mathematics with Applications, Thomas Koshy, Elsevier
6. Discrete Mathematical Structures, Bernand Kolman, Roberty C. Busby, Sharn Cutter Ross, Pearson
7. Discrete mathematical structures, Dr. D S Chandrashekhar, PRISM Publishers.

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING AND TECHNOLOGY

DATABASE MANAGEMENT SYSTEMS

Course Code: GR22A2069

L/T/P/C: 3/0/0/3

II Year I Semester

Course Objectives:

1. Understand the different issues involved in the design and implementation of a database system.
2. Understand Structured Query Language for manipulating the Data.
3. Study the physical, conceptual and logical database designs
4. Provide concepts of Transaction, Concurrency and Recovery Management Strategies of a DBMS
5. Design and build a simple database system and demonstrate competence with the fundamental tasks involved with modeling, designing, and implementing a DBMS.

Course Outcomes:

1. Identify the role of Database System Applications and the design issues related.
2. Design the logical model for the applications and apply indexing techniques.
3. Construct a Database Schema, manipulate data using a SQL.
4. Apply the Schema Refinement techniques for a database design for optimized access.
5. For a given transaction-processing system, determine the transaction atomicity, consistency, isolation, and durability.

UNIT I

Introduction to Database And System Architecture: Database Systems and their Applications, Database Vs File System, View of Data, Data Models, Database Languages- DDL and DML, Transaction Management, Database users and Administrators, Database System Structure.

Introduction to Database Design: ER Diagrams, Entities, Attributes and Entity sets, Relationships and Relationship set, Extended ER Features, Conceptual Design with the ER Model, Logical database Design.

UNIT II

SQL Queries and Constraints: SQL Data Definition, Types of SQL Commands, Form of Basic SQL Query, SQL Operators, Set Operators, Nested Queries, Aggregate Operators, NULL values, Integrity Constraints Over Relations, Joins, Introduction to Views, Destroying / Altering Tables and Views, Cursors, Triggers and Active Databases.

UNIT III

Relational Model: Introduction to Relational Model, Basic Structure, Database Schema, Keys, Relational Algebra and Relational Calculus.

Storage and Indexing: File Organizations and Indexing-Overview of Indexes, Types of Indexes, Index Data Structures, Tree structured Indexing, Hash based Indexing.

UNIT IV

Schema Refinement and Normal Forms: Introduction to Schema Refinement, Functional Dependencies, Reasoning about FD, Normal Forms, Properties of Decomposition.

UNIT V

Transaction Management: Transaction Concept, Transaction State, Implementation of Atomicity and Durability, Concurrent Executions, Serializability, Recoverability, Implementation of Isolation, Testing for Serializability.

Concurrency Control: Lock based Protocols, Timestamp based protocols,

Recovery System: Recovery and Atomicity, Log based recovery, Shadow Paging, Recovery with concurrent Transactions, Buffer Management.

Teaching Methodologies:

- Power Point Presentations
- Tutorial Sheets
- Assignments

Text Books/ References:

1. “Data base Management Systems”, Raghurama Krishnan, Johannes Gehrke,TATA McGraw Hill 3rdEdition
2. “Data base System Concepts”, Silberschatz, Korth, McGraw hill, V Edition.
3. “Introduction to Database Systems”, C.J.DatePearsonEducation.
4. “Database Systems design, Implementation, and Management”, Rob & Coronel5th Edition.
5. “Database Management Systems”, P. Radha Krishna HI-TECH Publications 2005.
6. “Database Management System”, ElmasriNavate, PearsonEducation.
7. “Database Management System”, Mathew Leon,Leo

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING AND TECHNOLOGY

SCRIPTING LANGUAGES LAB

Course Code: GR22A2085

L/T/P/C: 0/0/3/1.5

II Year I Semester

Course Objectives:

1. Classify the client-side and server-side programming works on the web.
2. Apply JavaScript, python and develop real time applications.
3. Analyze the use of PHP-based scripting to experiment on web application.
4. Identify the processing of data in MySQL database.
5. Learn how to use AJAX programming in PHP to make faster web pages.

Course Outcomes:

1. Design JavaScript and python applications for day to day activities.
2. Implement web application using PHP.
3. Design, debug and run complete web applications using PHP and MYSQL.
4. Build web applications using JavaScript and AJAX programming.
5. Develop web application to retrieve data from database using AJAX.

TASK 1

- a. Write a JavaScript code to edit a paragraph text on a button click.
- b. Insert an image in HTML page using image tag. Define a JavaScript code to change image on a button click.

TASK 2

- a. Write a JavaScript Code to check whether given number is positive, negative or zero
- b. Write a JavaScript Code to check whether given number is palindrome or not

TASK 3

Design a simple multiplication table using JavaScript asking the user the number of rows and columns as user wants to print.

TASK 4

Create a sample form program that collects the first name, last name, user id, and password and confirms password from the user. All the inputs are mandatory. Also, the values entered in the password and confirm password textboxes should be the same. After validating using JavaScript, Report error messages in red color just next to the textbox where there is an error.

TASK 5

- a. Write a Python Code to find GCD of given numbers
- b. Write a Python Code to check whether given number is prime or not
- c. Write a Python Code to generate Fibonacci series upto limit ‘n’

TASK 6

- a. Write a Python Code to count the number of odd and even numbers in a given list of numbers
- b. Write a Python Code to find the largest number in the given list
- c. Write a Python Code to reverse a given list

TASK 7

- a. Write a Python program that will prompt the user for a file name, read all the lines from the file into a list, sort the list, and then print the lines in sorted order.
- b. Write a Python program that asks the user for a filename, and then prints the number of characters, words, and lines in the file.

TASK 8

Implement PHP script for the following.

- a. Find the factorial of a number (while loop)
- b. To reverse the digit (Use do while)
- c. Find the sum of the digits (Use for loop)
- d. Write a PHP script for the following: Design a form to accept the details of 5 different items, such as item code, item name, units sold, and rate. Display the bill in the tabular format. Use only 4 text boxes. (Hint: Use of explode function.)

TASK 9

- a. Assume an array with different values. Write a PHP script to print only unique values from the array.
- b. Write a PHP script for finding sum of array elements
- c. Write a PHP script for searching an element in an array using linear search

TASK 10

- a. Examine and write a PHP script for creating required student information in the database.
- b. Write a PHP script for deleting and updating a specified student from the database.

TASK 11

Create a simple XMLHttpRequest and retrieve data from a text file.

TASK 12

Develop a AJAX application to retrieve the contents of database.

Example: Consider a webpage with a dropdown list of set of names, as user selects a name the application should be able to display selected user information (username, Phone number, Email-id, Place) in a table. When user selects other name, other user information should be displayed without reloading the page.

Text Books/ References:

1. Introduction to Programming using Python, Y.Daniel Liang, Pearson.
2. Beginning PHP and MySQL 3rd Edition W. Jason Gilmore - Third Edition, Apress publications
3. Beginning JavaScript with DOM scripting and AJAX: From Novice to Professional by Christian Heilman

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING AND TECHNOLOGY

JAVA PROGRAMMING LAB

Course Code: GR22A2071

L/T/P/C: 0/0/4/2

II Year I Semester

Course Objectives:

1. Understand Object Oriented Programming concepts and apply them in problem solving.
2. Get knowledge on Abstract classes, Interfaces and Multithreading.
3. Developing java applications and handle the exceptions.
4. Design applications for solving real world problems using Collection framework.
5. Building java GUI based applications using Applets, AWT and Swing.

Course Outcomes:

1. Analyze a problem, identify and define the computing requirements appropriate to its solution using object-oriented programming concepts.
2. Design the applications using Inheritance, Polymorphism and Synchronization concepts.
3. Handle exceptions at Compile time and Run time.
4. Solve the real-world problems using Java Collection framework.
5. Develop GUI applications using Applets, AWT and Swings.

TASK 1

Write java programs that implement the following

- a. Constructor
- b. Parameterized constructor
- c. Method overloading
- d. Constructor overloading.

TASK 2

- a. Write a Java program that checks whether a given string is a palindrome or not. Ex:
MADAM is a palindrome.
- b. Write a Java program for sorting a given list of names in ascending order.
- c. Write a Java Program that reads a line of integers, and then displays each integer and the sum of all the integers (Use StringTokenizer class of java.util)

TASK 3

Write java programs that uses the following keywords

- a) This b)super c)static d)final

TASK 4

- a. Write a java program to implement method overriding
- b. Write a java program to implement dynamic method dispatch.
- c. Write a Java program to implement multiple inheritance.
- d. Write a java program that uses access specifiers.

TASK 5

- a. Write a Java program that reads a file name from the user, then displays information about

whether the file exists, whether the file is readable, whether the file is writable, the type of file and the length of the file in bytes.

- b. Write a Java program that reads a file and displays the file on the screen, with a line number before each line.
- c. Write a Java program that displays the number of characters, lines and words in a text file

TASK 6

- a. Write a Java program for handling Checked Exceptions.
- b. Write a Java program for handling Unchecked Exceptions.

TASK 7

- a. Write a Java program that creates three threads. First thread displays “Good Morning” every one second, the second thread displays “Hello” every two seconds and the third thread displays “Welcome” every three seconds.
- b. Write a Java program that correctly implements producer consumer problem using the concept of inter thread communication.

TASK 8

Write a program illustrating following collections framework

- a) ArrayList
- b) Vector
- c) HashTable
- d) Stack

TASK 9

- a. Develop an applet that displays a simple message.
- b. Develop an applet that receives an integer in one text field and compute its factorial value and return it in another text field, when the button named “Compute” is clicked.
- c. Write a Java program that works as a simple calculator. Use a grid layout to arrange button for the digits and for the +, -, *, % operations. Add a text field to display the result.

TASK 10

- a. Write a Java program for handling mouse events.
- b. Write a Java program for handling key events.

TASK 11

- a. Write a program that creates a user interface to perform integer divisions. The user enters two numbers in the text fields Num1 and Num 2.
- b. The division of Num1 and Num2 is displayed in the Result field when the Divide button is clicked. If Num1 or Num2 were not an integer, the program would throw Number Format Exception. If Num2 were Zero, the program would throw an Arithmetic Exception and display the exception in a message dialog box.

TASK 12

- a. Write a java program that simulates traffic light. The program lets the user select one of three lights: red, yellow or green. When a radio button is selected, the light is turned on, and only one light can be on at a time. No light is on when the program starts.
- b. Write a Java program that allows the user to draw lines, rectangles and ovals.

TASK 13

Create a table in Table.txt file such that the first line in the file is the header, and the remaining lines correspond to rows in the table. The elements are separated by commas. Write a java program to display the table using JTable component.

Text Books/ References:

1. Java: The Complete Reference, 10th edition, Herbert Schildt, McGrawHill.
2. Java Fundamentals- A Comprehensive introduction, Herbert Schildt and Dale Skrien, TMH.
3. Java for programming, P.J. Dietel Pearson education (OR) Java: How to Program P.J. Dietel and H.M. Dietel, PHI
4. Object Oriented Programming through java, P. Radha Krishna, UniversitiesPress.
5. Thinking in Java, Bruce Eckel, Pearson Education
6. Programming in Java, S. Malhotra and S. Choudhary, Oxford University Press.

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING AND TECHNOLOGY

DATABASE MANAGEMENT SYSTEMS LAB

Course Code: GR22A2072

L/T/P/C: 0/0/3/1.5

II Year I Semester

Course Objectives:

1. Develop the logical design of the database using data modeling concepts such as Relational model.
2. Infer the data models and use of queries in retrieving the data.
3. Create a relational database using a relational database package.
4. Manipulate a database using SQL.
5. Render the concepts of database system structure.

Course Outcomes:

1. Construct the schema of the database and modify it.
2. Compile a query to obtain the aggregated result from the database.
3. Speculate the concepts of various database objects.
4. Compare the use of procedure and function in database.
5. Use triggers and packages to create applications in the database.

TASK 1

DDL commands (Create, Alter, Drop, Truncate)

- a. Create a table EMP with the following structure.

Name Type

EMPNO	NUMBER(6)
ENAME	VARCHAR2(20)
JOB	VARCHAR2(10)
MGR	NUMBER(4)
DEPTNO	NUMBER(3)
SAL	NUMBER(7,2)

- b. Add a column commission to the emptable. Commission should be numeric with null values allowed.

- c. Modify the column width of the job field of emptable.

- d. Create dept table with the following structure.

Name Type

DEPTNO	NUMBER(2)
DNAME	VARCHAR2(10)
LOC	VARCHAR2(10)

DEPTNO as the primary key

- e. Add constraints to the emptable that is empno as the primary key and deptno as the foreign key

- f. Add constraints to the emp table to check the emp no value while entering (i.e)empno>100.

- g. Salary value by default is 5000, otherwise it should accept the values from the user.

- h. Add columns DOB to the emp table. Add and drop a column DOJ to the emp table.

TASK 2

DML COMMANDS (Insert, Update, Delete)

- a. Insert 5 records into dept. Insert few rows and truncate those from the emp1 table and also drop it.
- b. Insert 11 records into emptable.
- c. Update the emptable to set the value of commission of all employees to Rs1000/- who are working as managers.
- d. Delete only those who are working as supervisors.
- e. Delete the rows whose empno is 7599.

TASK 3

TCL COMMANDS (Save Point, Rollback Commit)

TASK 4

DQL COMMAND (Select)- SQL Operators and Order by Clause

- a. List the records in the emptable order by salary in descending order.
- b. Display only those employees whose deptno is 30.
- c. Display deptno from the table employee avoiding the duplicated values.
- d. List all employee names, salary and 15% rise in salary. Label the column as pay hike.
- e. Display the rows whose salary ranges from 15000 to 30000.
- f. Display all the employees in dept 10 and 20 in alphabetical order of names.
- g. List the employee names who do not earn commission.
- h. Display all the details of the records with 5-character names with 'S' as starting character.
- i. Display joining date of all employees in the year of 1998.
- j. List out the employee names whose salary is greater than 5000 and less than 6000.

TASK 5

SQL Aggregate Functions, Group by clause, Having clause

- a. Count the total records in the emptable.
- b. Calculate the total and average salary of the employee.
- c. Determine the max and min salary and rename the column as max_salary and min_salary.
- d. Find number of departments in employee table.
- e. Display job wise sum, average, max, min salaries.
- f. Display maximum salaries of all the departments having maximum salary > 2000.
- g. Display job wise sum, avg, max, min salaries in department 10 having average salary is greater than 1000 and the result is ordered by sum of salary in descending order.

TASK 6

SQL Functions

- a. Display the employee name concatenate with employee number.
- b. Display half of employee name in upper case and half in lowercase.
- c. Display the month name of date "14-jul-09" in full.
- d. Display the Date of joining of all employees in the format "dd-mm-yy".
- e. Display the date two months after the Date of joining of employees.
- f. Display the last date of that month in "05-Oct-09".
- g. Display the rounded date in the year format, month format, day format in the employee.
- h. Display the commissions earned by employees. If they do not earn commission, display it as "No Commission".

TASK 7

Nested Queries

- a. Find the third highest salary of an employee.
- b. Display all employee names and salary whose salary is greater than minimum salary of the company and job title starts with 'M'.
- c. Write a query to display information about employees who earn more than any employee in dept30.
- d. Display the employees who have the same job as Jones and whose salary is greater than or equal to the salary of Ford.
- e. List out the employee names who get the salary greater than the maximum salaries of dept with deptno20,30.
- f. Display the maximum salaries of the departments whose maximum salary is greater than 9000.
- g. Create a table employee with the same structure as the table emp and insert rows into the table using select clause.
- h. Create a manager table from the emptable which should hold details only about the managers.

TASK 8

Joins, Set Operators

- a. Display all the employees and the departments implementing a left outer join.
- b. Display the employee name and department name in which they are working implementing a full outer join.
- c. Write a query to display their employee names and their managers' name and salary for every employee.
- d. Write a query to output the name, job, empno, deptname and location for each dept, even if there are no employees.
- e. Display the details of those who draw the same salary.

TASK 9

Views

- a. Create a view that displays the employee id, name and salary of employees who belong to 10th department.
- b. Create a view with read only option that displays the employee name and their department name.
- c. Display all the views generated.
- d. Execute the DML commands on views created and drop them

TASK 10

Practice on DCL commands, Sequence and indexes.

TASK 11

- a. Write a PL/SQL code to retrieve the employee name, join date and designation of an employee whose number is given as input by the user.
- b. Write a PL/SQL code to calculate tax of employee.
- c. Write a PL/SQL program to display top ten employee details based on salary using cursors.
- d. Write a PL/SQL program to update the commission values for all the employees' with salary less than 2000, by adding 1000 to the existing values.

TASK 12

- a. Write a trigger on employee table that shows the old and new values of employee name after updating on employee name.
- b. Write a PL/SQL procedure for inserting, deleting and updating the employee table.
- c. Write a PL/SQL function that accepts the department number and returns the total salary of that department.

TASK 13

- a. Write PL/SQL program to handle predefined exceptions.
- b. Write PL/SQL program to handle user defined exception.
- c. Write a PL/SQL code to create
 - i) Package specification
 - ii) Package body to insert, update, delete and retrieve data on emp table.

TASK 14

Table locking (Shared Lock and Exclusive lock)

Text Books/ References:

1. The Complete Reference,3rd edition by James R.Groff, Paul N.Weinberg, AndrewJ. Oppel
2. SQL & PL/SQL for Oracle10g, Black Book,Dr.P.S.Deshpande.

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING AND TECHNOLOGY

VALUE ETHICS AND GENDER CULTURE

Course Code: GR22A2002

L/T/P/C: 2/0/0/0

II Year I Semester

Course Objectives:

1. To understand about the importance of ethical values
2. To understand the significance of human conduct and self-development
3. To enable students to imbibe and internalize the value and Ethical behaviour in personal and professional lives.
4. To provide a critical perspective on the socialization of men and women.
5. To create an awareness on gender violence and condemn it.

Course Outcomes

1. To enable the student to understand the core values that shapes the ethical behaviour. And Student will be able to realize the significance of ethical human conduct and self-development
2. Students will be able to inculcate positive thinking, dignity of labour and religious tolerance.
3. The students will learn the rights and responsibilities as an employee and a team member.
4. Students will attain a finger grasp of how gender discrimination works in our society and how to counter it.
5. Students will develop a better understanding on issues related to gender and Empowering students to understand and respond to gender violence.

UNIT I

Values and Self-Development—social values and individual attitudes, Importance of cultivation of values, Sense of duty, Devotion, Self-reliance, Confidence, Concentration, Truthfulness, Cleanliness, Honesty, Humanity, Power of faith, National unity, Patriotism, Love for nature, Discipline.

- ❖ A Case study on values and self-development

UNIT II

Personality and Behaviour Development—positive thinking, punctuality, avoiding fault finding, Free from anger, Dignity of labour, religious tolerance, Aware of self-destructive habits.

- ❖ A Case study on Personality

UNIT III

Introduction to Professional Ethics: Basic Concepts, Governing Ethics, Personal & Professional Ethics, Ethical Dilemmas, Life Skills, Emotional Intelligence, Thoughts of Ethics, Value Education, Dimensions of Ethics, Profession and professionalism, Professional Associations, Professional Risks, Professional Accountabilities, Professional Success, Ethics and Profession.

- ❖ A Case study on professional ethics

UNIT IV

Introduction to Gender - Definition of Gender, Basic Gender Concepts and Terminology, Attitudes towards Gender, Social Construction of Gender.

- ❖ A Case study/ video discussion on attitudes towards gender

UNIT V

Gender-based Violence -The concept of violence, Types of Gender-based violence, the relationship between gender, development and violence, Gender-based violence from a human rights perspective.

- ❖ A Case study/ video discussion on gender-based violence in view of human rights

Textbooks

1. Professional Ethics: R. Subramanian, Oxford University Press, 2015.
2. Ethics in Engineering Practice & Research, Caroline Whit beck, 2e, Cambridge University Press 2015.
3. A Bilingual Textbook on Gender" written by A. Suneetha, Uma Bhrugubanda, Duggirala Vasanta, Rama Melkote, Vasudha Nagaraj, Asma Rasheed, GoguShyamala, Deepa Sreenivas and Susie Tharu and published by Telugu Akademi, Hyderabad,Telangana State in the year 2015.

Reference Books

1. Menon, Nivedita. Seeing like a Feminist. New Delhi: Zubaan-Penguin Books, 2012
2. Abdulali Sohaila. "I Fought For My Life...and Won." Available online at: <http://www.thealternative.in/lifestyle/i-fought-for-my-lifeand-won-sohaila-abdulal/>
3. Engineering Ethics, Concepts Cases: Charles E Harris Jr., Michael S Pritchard, Michael J Rabins, 4e , Cengage learning, 2015.
4. Business Ethics concepts & Cases: Manuel G Velasquez, 6e, PHI, 2008