P.K.R ARTS COLLEGE FOR WOMEN
(Accredited with 'A' Grade by NAAC)
An Autonomous Institution – Affiliated to Bharathiar University
Gobichettipalayam – 638476.

POST GRADUATE DIPLOMA IN COMPUTER APPLICATIONS
Course Scheme and Scheme of Examinations (Regular Stream)
(For students admitted from 2023-24& onwards)

Part	Category	Course Code	Title of the Course	ContactHrs/ week	Exam Duration hrs	Max. Marks			Credits
						CIA	ESE	Total marks	
	I –SEMESTER								
III	Paper- I	23PGDCA01	Introduction to Information Technology	6	3	25	75	100	4
III	Paper -II	23PGDCA02	Operating System	6	3	25	75	100	4
III	Paper -III	23PGDCA03	Programming in C	6	3	25	75	100	4
III	Paper -IV	23PGDCA04	Office Automation - Lab	6	3	40	60	100	4
III	Paper -V	23PGDCA05	Programming in C - Lab	6	3	40	60	100	4
			TOTAL	**30**				**500**	**20**
	II –SEMESTER								
III	Paper -VI	23PGDCA06	Networking Fundamentals	6	3	25	75	100	4
III	Paper -VII	23PGDCA07	Web Technology	6	3	25	75	100	4
III	Paper -VIII	23PGDCA08	Relational Database Management Systems	6	3	25	75	100	4
III	Paper - IX	23PGDCA09	Networking and Web Programming – Lab	6	3	40	60	100	4
III	Paper- X	23PGDCA10	RDBMS using Oracle - Lab	6	3	40	60	100	4
			TOTAL	**30**				**500**	**20**

Category	Course Type	Course Code	Course Title	Contact Hours	Credit (C)
Paper I	Core : I	23PGDCA01	**INTRODUCTION TO INFORMATION TECHNOLOGY**	72	4

Contact hours per semester: 72
Contact hours per week: 6

Year	Semester	Internal Marks	External Marks	Total Marks
I	**I**	**25**	**75**	**100**

Preamble

To learn about basic computers, Ms-Word, Ms-Excel, Ms-Powerpoint and Internet applications

Course Outcomes

On the successful completion of the course, students will be able to

COs	Course Outcome	Knowledge Level (RBT)
CO1	Enumerate the concepts of computers, Ms-office and Internet Applications	**K1**
CO2	explain the process of computers and Ms-Office utilities	**K2**
CO3	Utilise the functions of different generation of computers and Ms-office functions with Internet options	**K3**
CO4	Infer the options of Utilities and characteristics of computers	**K4**
CO5	Elucidate Ms-Word, Ms-Excel, Ms-Powerpoint functions and operating system functions	**K5**
CO6	Design and develop real –time applications using Ms-Office	**K6**

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze;
K5 – Evaluate; K6 – Create.

COURSE CONTENT

UNIT-I INTRODUCTION TO COMPUTERS (15 Hours)

Introduction to Computers – characteristics – history – generations - classifications application of computer - hardware and software - operation systems - computer language - Windows - windows basics – introduction - starting windows - using mouse - using menus in windows.

UNIT-II INTRODUCTION TO MS - WORD (15 Hours)

Word, introduction to word - editing a document - move and copy text and help system, formatting text & paragraph - finding and replacing text and spell checking - tables & other features - templates and wizards using mail merge - miscellaneous features of word.

UNIT III INTRODUCTION OF MS - EXCEL (15 Hours)

Introduction of worksheet & excel -Getting started with excel - editing cells and using commands and functions - moving and copying - inserting and deleting rows and columns, getting help and formatting a worksheet - printing the worksheet - creating charts -using date and time and addressing modes - naming ranges and using statistical - math and financial functions.

Unit IV INTRODUCTION OF MS-POWER POINT (14 Hours)

Power point basics editing text adding subordinate points - deleting slides - working in outline view - using design templates - adding graphs - adding organization charts - running an electronic slide show - adding special effects.

Unit V OVERVIEW OF WWW (13 Hours)

Definition-Advantages of browsers – Brief overview of servers - URL definition – Introduction to World Wide Web (WWW) – Brief study of HTML tags – client/server Architecture in internet – Domain name – Extension types internet services – addressing scheme– feature of internet.

TEXT BOOKS:

1.Fundamentals of computers 2nd edition, V.Rajaraman, Pai.
2.Easy Office 2000, SISO Books
3.MS Office, C.Nellikannan, Nels Publication
4.Internet Complete Reference, Healey Halin, Tata MaCra

Category	Course Type	Course Code	Course Title	Contact Hours	Credit (C)
Paper - II	Core : II	23PGDCA02	**OPERATING SYSTEM**	72	4

Contact hours per semester: 72
Contact hours per week: 6

Year	Semester	Internal Marks	External Marks	Total Marks
I	**I**	**25**	**75**	**100**

Preamble

To learn about basic operating system abstractions, mechanisms and their implementations

Course Outcomes

On the successful completion of the course, students will be able to

Cos	Course Outcome	Knowledge Level (RBT)
CO1	Recall the Operating System concepts	**K1**
CO2	Describe all functions of operating system and I/O Management	**K2**
CO3	Applythe operating system operations	**K3**
CO4	analyse I/O devices and files	**K4**
CO5	Judge types of operating systems and distributed systems	**K5**
CO6	Construct and discuss the function and process of operating system	**K6**

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze;
K5 – Evaluate; K6 – Create.

COURSE CONTENT

UNIT I OVERVIEW OF OPERATING SYSTEM (13 Hours)

Background – Basic Elements – Operating System overview – operating system objectives and functions – Evolution of operating System – Microsoft windows overview – Linux

UNIT II PROCESS MANAGEMENT (14 Hours)

Processes – What is a process? – Process States – Process Description – Process Control – Scheduling – Uniprocess Scheduling - Types of process scheduling – Scheduling algorithms - Multiprocess Scheduling – Principles of Deadlock.

UNIT III MEMORY MANAGEMENT (15 Hours)

Memory Management – Memory Management Requirements – Memory partitioning – Paging – Segmentation.

UNIT IV I/O AND FILE MANAGEMENT (15 Hours)

I/O Devices – Organization of the I/O function – File Management – Overview – File organization and access – File Directories – File Sharing – Record Blocking – File System Security.

UNIT V DISTRIBUTED SYSTEMS (15 Hours)

Distributed Processing – Client/ Server Computing – Service - Oriented Architecture – Distributed Message Passing – Remote Procedure Calls.

TEXT BOOK

William Stallings, Operating System: Internals and Design Principals, 7TH Edition,Pearson Publication.

REFERENCE BOOKS:

1. H.M.Deitel,Operating System,2nd Edition, Addison Wesley Publishing Company.
2. Flynn, McHoes, Operating System, India Edition

Category	Course Type	Course Code	Course Title	Contact Hours	Credit (C)
Paper - III	Core : III	23PGDCA03	**PROGRAMMING IN C**	72	4

Contact hours per semester: 72
Contact hours per week: 6

Year	Semester	Internal Marks	External Marks	Total Marks
I	**I**	**25**	**75**	**100**

Preamble

To learn about the Computer fundamentals and the C programming language concepts

Course Outcomes

On the successful completion of the course, students will be able to

Cos	Course Outcome	Knowledge Level (RBT)
CO1	Recall the concepts of C Language	**K1**
CO2	Explain operators, decision making statements and other programming concepts	**K2**
CO3	Illustrate all functions of C Language with programs	**K3**
CO4	Analyze the different concepts of C language with	**K4**

	examples	
CO5	Find errors in programs in C language	**K5**
CO6	Develop and solve real time problems using C Progamming language	**K6**

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create.

COURSE CONTENT

UNIT I OVERVIEW OF C (13 Hours)

History of C – Overview of C – Importance of C – Basic Structure of C Programme – Programming Style – Executing C Programme – Constants, Variables and Data types – Introduction – character Set – C Tokens – Keywords and Identifiers – Constants – Variables – Data types – Declaration of Variables – Assigning values to the variables – Defining Symbolic constant.

UNIT II OPERATORS AND EXPRESSIONS (14 Hours)

Introduction - Arithmetic, Relational, Logical, Assignment, Conditional, Bitwise, Special, Increment and Decrement operators - Arithmetic Expressions - Evaluation of Expression - Precedence of Arithmetic Operators - Type Conversion in Expression - Mathematical Functions.

UNIT III DECISION MAKING AND BRANCHING (15 Hours)

Introduction – Decision making with If – Simple IF - The If.…Else - Nesting of If …Else Statements- Else If ladder – The Switch Statement - The ?: Operator – The Goto Statement. Decision Making and Looping: Introduction- The while Statement- The Do Statement – The For Statement-Jumps in Loops.

UNIT IV ARRAYS (15 Hours)

Introduction – One dimensional Array – Declaration of One Dimensional Array – Initialization of One Dimensional Array – Two Dimensional Array – Initializing Two Dimensional Array.

UNIT V FUNCTIONS, STRUCTURES & UNIONS (15 Hours)

User-Defined Functions: Introduction – Need and Elements of User-Defined Functions-Definition-Return Values and their Types - Function Calls – Declarations – Category of Functions- Nesting of Functions – Recursion - Structures and Unions.

TEXT BOOK:

1. E Balagurusamy, Computing Fundamentals & C Programming , Tata McGraw-Hill, Second Reprint 2008.

REFERENCE BOOKS:

1. Ashok N Kamthane, Programming with ANSI and Turbo C, Pearson, 2002.
2. Henry Mullish& Hubert L.Cooper,TheSprit of C, Jaico, 1996.

Category	Course Type	Course Code	Course Title	Contact Hours	Credit (C)
Paper - IV	Core : IV	23PGDCA04	**OFFICE AUTOMATION – LAB**	72	4

Contact hours per semester: 72
Contact hours per week: 6

Year	Semester	Internal Marks	External Marks	Total Marks
I	**I**	**40**	**60**	**100**

Subject Description: This course provides hands on experience on Office Automation

Goal: To enable the students to develop the skill in Ms- Office

Objectives: On successful completion of the course the students will understand the concepts of Ms-Office and expertise in using Internet Applications

Cos	Course Outcome	Knowledge Level (RBT)
CO1	Recall the concepts of Office Suite and Internet Applications	**K1**
CO2	Explain the Office utilities and accounting features	**K2**

CO3	Demonstrate the functions of office Suite with Internet options	**K3**
CO4	Categorize the Office utilities using programs	**K4**
CO5	Find errors in Word Processor, Spreadsheet and Presentation	**K5**
CO6	Construct real –time applications using Office Suite	**K6**

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze;
K5 – Evaluate; K6 – Create.

Practical List

1. Using word processor, type a paragraph and use Editing options —Inserting —Deleting —Cut, Copy, paste —Undo, Redo —Find, Search and Replace.
2. Using word processor, design an invitation using page borders and images.
3. Using word processor, create your class time table using table feature. Include the following options: Borders, Alignments, Insertion and deletion of cells, rows and columns, Merging and Splitting of cells and tables and Sorting of column/row/table.
4. Using word processor complete Mail Merge operations - create a letter format and send the exam timetable to any 10 members of your classmates.
5. Create a sheet using spreadsheet application with required data and complete the following operations:
    1. Find total of a column or row
    2. Mathematical operations (Addition, Subtraction, Multiplication, Division, Exponentiation)
6. Using spreadsheet application, create a Chart to display the student performance in academics.
7. Create a table using database application.
8. Design a presentation for a new product launch in the market.
9. Design a presentation using animations and transitions effects.
10. Create a company in Tally.
11. Create ledgers and vouchers in Tally.
12. Create balance sheet in tally and print it as PDF.

Category	Course Type	Course Code	Course Title	Contact Hours	Credit (C)
Paper - V	Core : V	23PGDCA05	**PROGRAMMING IN C – LAB**	72	4

Contact hours per semester: 72
Contact hours per week: 6

Year	Semester	Internal Marks	External Marks	Total Marks
I	**I**	**40**	**60**	**100**

Subject Description: This course provides hands on experience on C Programming

Goal: To enable the students to develop software in C language

Objectives: On successful completion of the course the students will understand the concepts of C language and expertise in using C

Cos	Course Outcome	Knowledge Level (RBT)
CO1	Recall the concepts of C Language	**K1**
CO2	Explain operators, decision making statements and other programming concepts	**K2**
CO3	Illustrate all functions of C Language with programs	**K3**
CO4	Analyze the different concepts of C language with examples	**K4**
CO5	Find errors in programs using C language	**K5**
CO6	Develop and solve real time problems using C structures and functions	**K6**

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create.

Practical List

1. Write a C program to find the sum and average for given numbers.
2. Write a C program to find the prime numbers.
3. Write a C program to find the factorial of a given number.
4. Write a C program to generate Fibonacci series.
5. Write a C program to sort the given set of numbers in ascending order.
6. Write a C program to find whether the given number is even or odd.
7. Write a C program to check whether the given string is palindrome or not.
8. Write a C program using the concept of switch case.
9. Write a C program using functions.
10. Write a C program using Structures.

SEMESTER – II

Category	Course Type	Course Code	Course Title	Contact Hours	Credit (C)
Paper -VI	Core : VI	23PGDCA06	**NETWORKING FUNDAMENTALS**	72	4

Contact hours per semester: 72
Contact hours per week: 6

Year	Semester	Internal Marks	External Marks	Total Marks

I	**I**	**25**	**75**	**100**

Preamble

To understand the concepts and design of Computer Networks

Course Outcomes

On the successful completion of the course, students will be able to

Cos	Course Outcome	Knowledge Level (RBT)
CO1	Outline the overview of OSI model and Layers	K1
CO2	Explain the concept of seven layers and its working	K2
CO3	Apply protocols and algorithms in appropriate layers	K3
CO4	Summarize the technical trends in of computer networking	K4
CO5	Evaluate the challenges in building networks and solutions	K5
CO6	Discuss the key technological components of the network	K6

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze;
K5 – Evaluate; K6 – Create.

COURSE CONTENT

UNIT I OVERVIEW OF NETWORKS (13 Hours)

Introduction - Uses of computer networks - Local Area Networks - Metropolitan Area Networks - Wide Area Network - Reference models - The OSI Reference Model.

Unit II PHYSICAL & DATA LINK LAYER (14 Hours)

PHYSICAL LAYER - Guided Transmission Media: Magnetic Media – Twisted Pair – Coaxial Cable – Fiber Optics - DATA-LINK LAYER: Framing – Error Control - Error Detection and correction

Unit III NETWORK LAYER (15 Hours)

Store and Forward Packet Switching – Comparison of Virtual Circuit and Datagram Networks – Routing Algorithm – Shortest Path Algorithm – Broadcast Routing

Unit IV TRANSPORT AND SESSION LAYER (15 Hours)

Transport Service Primitives – Addressing – Introduction to TCP – TCP Service Model – TCP Protocol – Connection Establishment – Connection Release.

Unit V PRESENTATION AND APPLICATION LAYER (15 Hours)

DNS – Electronic Mail - Architecture and Services – World Wide Web – Architectural Overview – Static Web Page – Dynamic Web page

TEXT BOOK

Andrew S Tanenbaum David J Wetherall, Computer Networks, 5th Edition, McGraw Hill Education

REFERENCE BOOKS:

1. Data Communications and Networks, AchyutGodbole and AtulKahate, McGraw Hill Education, 2011.
2. Behrouz A Forouzan, Data Communications and Networking, Tata McGraw Hill, Fifth Edison, 2013.

Category	Course Type	Course Code	Course Title	Contact Hours	Credit (C)

Paper- VII	Core : VII	23PGDCA07	**WEB TECHNOLOGY**	72	4

Contact hours per semester: 72
Contact hours per week: 6

Year	Semester	Internal Marks	External Marks	Total Marks
I	**I**	**25**	**75**	**100**

Preamble

To enable the students to learn the concepts of web technologies

Course Outcomes

On the successful completion of the course, students will be able to

Cos	Course Outcome	Knowledge Level (RBT)
CO1	Describe the concept of Internet applications and dealing with web designing languages	K1
CO2	Derive the structure of Web Architecture using HTML, XML and WAP	K2
CO3	Apply the HTML and XML tags to develop a web page	K3
CO4	Analyze the insight on dynamic web pages and other programming languages	K4
CO5	assess the needsof WAP and XML and how it differs from static web page	K5
CO6	Develop real time web applications using HTML and XML	K6

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze;
K5 – Evaluate; K6 – Create.

COURSE CONTENT

UNIT I BASICS OF INTERNET (15 Hours)

Internetworking Concepts, Devices, Basics, History and Architecture:Why Internetworking? – Problems in Internetworking - Dealing with In Compatibility Issues – Internetworking Devices – A Brief History of Internet – Growth of Internet – Internet Topology – ISP.TCP/IP: TCP/IP Basics – Why IP address – Logical Address - TCP/IP Example- The concept of IP address Relationship between TCP and IP.

UNIT II WEB ARCHITECTURE (14 Hours)

DNS – E-mail – FTP – TFTP - Remote Login (TELNET).– History of WWW – Basics of WWW and Browsing - Local information on the internet – Web Browser Architecture – Web Pages and Multimedia.

UNIT III WEB TECHNOLOGY (13 Hours)

Hypertext MarkupLanguage(HTML) - HTML Frames – HTML Forms. Introduction to Web Technology: Web pages – Tiers – Concept of a Tier – Static Web Pages.

UNIT IV DYNAMIC WEB PAGES (15 Hours)

Dynamic Web Pages: Need for Dynamic Web Pages – Overview of Dynamic Web Page Technologies - Overview of DHTML – Common Gateway Interface – ASP – ASP Technology – ASP Example – Modern Trends in ASP – Java and JVM – Java Servlets – Java Server Pages.

UNIT V XML & WAP (15 Hours)

XML: Basics of XML – XML Parsers – Need for a standard. WAP: Limitations of Mobile devices – Emergence of WAP – WAP Architecture – WAP Stack – Concerns about WAP and its future – Alternatives to WAP.

TEXT BOOKS:

Web Technologies: TCP/IP to Internet Applications Architectures – Achyut S Godbole& AtulKahate, 2007, TMH.

REFERENCE BOOKS:

1. Internet and Web Technologies, Rajkamal, TMH.

2. TCP/IP Protocol Suite, Behrouz A. Forouzan, 3rd edition, TMH.

Category	Course Type	Course Code	Course Title	Contact Hours	Credit (C)
Paper - VIII	Core : VIII	23PGDCA08	RDBMS & ORACLE	72	4

Contact hours per semester: 72
Contact hours per week: 6

Year	Semester	Internal Marks	External Marks	Total Marks
I	**I**	**25**	**75**	**100**

Preamble

To enable the students to learn about the concepts of database system and manipulation of data

Course Outcomes

On the successful completion of the course, students will be able to

Cos	Course Outcome	Knowledge Level (RBT)
CO1	Remember the basic concepts of database system	**K1**
CO2	Describe the implementation concepts using syntax in relational database	**K2**
CO3	Demonstrate the DML statements and DDL statements	**K3**
CO4	Classify PL/SQL programs with different operations using Database syntaxes	**K4**
CO5	Summarize all PL/SQL statements with syntax	**K5**
CO6	Generalize the function of cursors and PL/ SQL statements	**K6**

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create.

COURSE CONTENT

UNIT I OVERVIEW OF DBMS (13 Hours)

Database Concepts: A Relational approach: Database – Relationships – DBMS –Relational Data Model – Integrity Rules – Theoretical Relational Languages. DatabaseDesign: Data Modeling and Normalization: Data Modeling – Dependency – Database Design– Normal forms – Fundamentals of ER Diagrams.

UNIT II OVERVIEW OF ORACLE (14 Hours)

Oracle Tables: DDL: Naming Rules and conventions – Data Types – Constraints – CreatingOracle Table – Displaying Table Information – Altering an Existing Table – Dropping,Renaming, Truncating Table.

UNIT III DATA MANIPULATION (15 Hours)

Working with Table: Data Management and Retrieval: DML – adding a newRow/Record – Updating and Deleting an Existing Rows/Records –retrieving Data from Table – Arithmetic Operations – restricting Data with WHERE clause –Sorting – ORDER BY – GROUP BY

UNIT IV PL/SQL (15 Hours)

PL/SQL: A Programming Language: History – Fundamentals – Block Structure –Comments – Data Types – Other Data Types – Declaration – Assignment operation – Bindvariables – Substitution Variables – Printing – Arithmetic Operators. Control Structures: Control Structures – Nested Blocks

UNIT V CURSORS (15 Hours)

PL/SQL Cursors and Exceptions: Cursors – Implicit &Explicit Cursors and Attributes – Cursor FOR loops – SELECT...FOR UPDATE – WHERECURRENT OF clause – Cursor with Parameters – Cursor Variables – Exceptions – Types of Exceptions.

TEXT BOOK:

Database Systems using Oracle, Nilesh Shah, 2nd edition, PHI.

REFERENCE BOOKS:

1. Database Management Systems, Majumdar& Bhattacharya, 2007, TMH.

2. Database Management Systems, Gerald V. Post, 3rd edition, TMH.

Category	Course Type	Course Code	Course Title	Contact Hours	Credit (C)
Paper- IX	Core : IX	**23PGDCA09**	**Networking and Web Programming – Lab**	72	4

Contact hours per semester: 72
Contact hours per week: 6

Year	Semester	Internal Marks	External Marks	Total Marks
I	**I**	**40**	**60**	**100**

Subject Description: This course provides hands on experience on networking and Web Programming

Goal: To enable the students to work effectively with Networking and Web Programming concepts

Objectives: On successful completion of the course the students will be able to build system architecture and networking and web programming options.

Cos	Course Outcome	Knowledge Level (RBT)
CO1	identify the network commands, HTML commands	**K1**
CO2	Classify the network commands and HTML tags	**K2**
CO3	Apply different procedures to configure networks and illustrate web page commands	**K3**
CO4	Analyze the file information in network and background tags with images in HTML	**K4**
CO5	Compare the network commands in different networks and find errors in HTML tags	**K5**

CO6	Construct HTML procedures for webpage creation and configure different types of networks	**K6**

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create.

Practical List

1. Give basic network commands and Network configuration commands and record results.
2. Write a procedure to share a file in a network.
3. Write a procedure to create, copy, rename the folders in a system.
4. Write a procedure to print a document in the system.
5. Write a procedure to create an electronic mail and send a mail to the user.
6. Write a procedure to send a mail to multiple users.
7. Write a some commands in HTML.
8. Write a procedure to insert background colour and marquees in HTML.
9. Write a procedure to insert images in the webpage.
10. Write a procedure to create simple webpage.

Category	Course Type	Course Code	Course Title	Contact Hours	Credit (C)
Paper - X	Core : X	23PGDCA10	**RDBMS & Oracle – Lab**	72	4

Contact hours per semester: 72
Contact hours per week: 6

Year	Semester	Internal Marks	External Marks	Total Marks
I	**I**	**40**	**60**	**100**

Subject Description: This course provides hands on experience on PL/SQL Programming and Oracle

Goal: To enable the students to work effectively with PL/SQL and Oracle

Objectives: On successful completion of the course the students will be able to build real world applications using PL/SQL and Oracle

Cos	Course Outcome	Knowledge Level (RBT)
CO1	Recall the basic concepts of database system	**K1**
CO2	Illustrate the features available in a RDBMS package	**K2**
CO3	Construct appropriate DDL and DML queries for database manipulation	**K3**

CO4	Analyse database requirements to design database	**K4**
CO5	Assess data in tables against appropriate constraints	**K5**
CO6	Build simple solutions to real world problems using SQL queries	**K6**

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze;
K5 – Evaluate; K6 – Create.

Practical List

1. Create a table "Company" with the following fields and insert the values for 10 employees.

Field Name	**Field Type**	**Field size**
Company Name	Character	15
Proprietor	Character	15
Address	**Level of Correlation : 0 – Nil; 1 –Low; 3 – Medium; 9 – High**	
As per UGC Notification	Character	25
Supplier Name	Character	15
No of employees	Number	4
GP Percent	Number	6 with 2 decimal places

2. Using the above table display the Results:
a) Display all the records of the company which are in the ascending order of GP percent.
b) Display the name of the company whose supplier name starts with "T".
c) Display the details of the company whose GP percent is greater than 20 and order by GP Percent.
d) Display the detail of the company having the employee ranging from 300 to 1000.
e) Display the name of the company whose supplier is same as the Tata's.
3. Create a table named "Student" with the following fields and insert the values.

Field Name	**Field Type**	**Field Size**
Student Name	Character	15
Student Code	Number	6
Address	Character	25
Course Name	Character	15
Percentage	Number	4 with 2 decimal places

Insert the appropriate values in the table.

4. Using the above table display the Results:

a) Display the average percentage of students.

b) Display the names of the students whose percentage is greater than 80.

c) Display the details of the student who got the highest percentage.

d) Display the details of the students whose percentage is between 50 and 70.

e) Display the details of the students whose percentage is greater than the percentage of the roll no=17CA01

5. Create a Table Publisher and Book with the following fields:

Field Name	**Field Type**	**Field Size**
Publisher Code	VarChar	5
Publisher Name	VarChar	10
Publisher city	VarChar	12
Publisher State	VarChar	10
Title of book	VarChar	15
Book Code	VarChar	5
Book Price	VarChar	5

Use DML commands

6. Using the above table display the Results

b) Insert the records into the table publisher and book.

c) Describe the structure of the tables.

d) Show the details of the book with the title "DBMS".

e) Show the details of the book with price>300.

f) Show the details of the book with publisher name "PHI".

7. Using the above table display the Results

a) Select the book code, book title, publisher city is "Delhi".

b) Select the book code, book title and sort by book price.

c) Count the number of books of publisher starts with "BalaGurusamy".

d) Find the name of the publisher starting with "S".

8. Write a PL/SQL Program to add two numbers

9. Write a PL/SQL program to display ODD or EVEN numbers

10. Write a PL/SQL program to generate Fibonacci number.