Annexure - 11

PERIYAR UNIVERSITY

SALEM – 636 011

PERIYAR INSTITUE OF DISTANCE EDUCATION (PRIDE)

B.Sc. COMPUTER SCIENCE

REGULATIONS AND SYLLABUS

(Effective from the academic year 2008 – 2009 and thereafter)

PERIYAR UNIVERSITY , SALEM-11.

PERIYAR INSTITUTE OF DISTANCE EDUCATION
(PRIDE)
REGULATIONS

1. CONDITION FOR ADMISSION :

A Candidate who has passed Higher Secondary Examination with Mathematics or Business mathematics or Computer Science or statistics (Academic stream or Vocational stream) as one of the subjects under Higher Secondary Board Of Examination, TamilNadu or as per norms set by the Government of TamilNadu or an Examination accepted as Equivalent thereto by the Syndicate subject to such conditions as may be prescribed thereto are permitted to appear and qualify for the B.Sc., Computer Science degree examination of this university after a course of study of three academic years.

2. DURATION OF THE COURSE :

The course for the degree of Bachelor of Computer Science shall consist of three academic years.

3. COURSE OF STUDY :

The course of study shall comprise instruction in the following subjects according to the syllabus and books prescribed form time to time.

PERIYAR INSTITUTE OF DISTANCE EDUCATION
(PRIDE)

I- YEAR

S. No	Paper Code	Subject	Marks
1.		Language-I	100
2.		English-I	100
3.		Digital Computer Fundamentals	100
4.		Programming Language 'C' and Data Structure	100
5.	P07UMAA03	Allied-I Allied Mathematics	100
6.		Practical-I Programming in 'C' Using Data Structure	100

II YEAR

S.No	Paper Code	Subject	Marks
1.		Language-II	100
2.		English-II	100
3.		System Analysis and Design	100
4.		Object Oriented Programming with C++	100
5.		Allied-II Management Accounting	100
6.		Practical-II Programming in 'C++' Using OOPs	100

III-YEAR

S.No	Paper Code	Subject	Marks
1.		Database Management System	100
2.		Operating System	100
3.		Programming Language VISUAL BASIC	100
4.		Internet and Programming Language JAVA	100
5.		Practical-III Programming in VISUAL BASIC and RDBMS	100
6.		Practical-IV Programming in JAVA	100

2.(a). Allied Papers:

I –Year

S.No	Paper Code	Subject	Marks
1.	P07UMAA03	Allied – I Mathematics	100

II - Year

S.No	Paper Code	Subject	Marks
1.		Allied – II Management Accounting	100

4.Examinations:

The theory and practical examination shall be three hours duration to each paper at the end of year. The Candidate failing in any subject(s) will be permitted to appear for each failed subject(s) in the subsequent examination.

5. Scheme of Examinations:

The scheme of Examinations for different years shall be as follows:

Sl.No.	Paper Code	Title of the Paper		Duration Marks
I-YEAR				
1.		Language–I	3	100
2.		English – I	3	100
3.		Digital Computer Fundamentals	3	100
4.		Programming Language 'C' and Data structure	3	100
5.		Allied-I Allied Mathematics	3	100
6.		Practical-I Programming in 'C' Using Data Structure	3	100
II-YEAR				
7.		Language–II	3	100
8.		English – II	3	100
9.		System Analysis and Design	3	100
10.		Object oriented Programming With C++	3	100
11.		Allied-II Management accounting	3	100
12.		Practical- II Programming in C++ Using OOPs	3	100
III-YEAR				
13.		Database Management System	3	100
14.		Operating Systems	3	100
15.		Programming Language Visual Basic	3	100
16.		Internet and Programming Language JAVA	3	100
17.		Practical- III Programming in Visual Basic and RDBMS	3	100
18.		Practical–IV Programming in JAVA	3	100
		Total Marks		**1800**

6 Question Paper Pattern for all UG Courses:

Question Paper Pattern for Theory :

Time : 3 Hours **Max.Marks - 100**

Part A : 10 x 2 = 20
(Answer all questions)
(Two questions from each unit)

Part B : 5 x 4 = 20
(Answer all questions)
(One question from each unit with internal choice)

Part C : 5 x 12 = 60
(Answer all questions)
(One question from each unit with internal choice)

Question Paper pattern for practical

Time:3 Hours **Max.Marks - 100**
Record : 20 Marks
Practical : 80 marks

For Each practical Question the marks should be awarded as follows:

i) Flowchart - 20%
ii) Writing the program in the main answer book - 30%
iii) List, test and debug the program - 30%
iv) Printing the correct output - 20%

(Marks may be proportionately reduced for the errors committed in each of the above)

Practical-I:

One Question from C Using Data Structure (either or type)

Practical-II:

One Question from C++ Using OOPs (either or type)

Practical-III:

One Question from VB (either or type)
(AND)
One Question from RDBMS (either or type)

Practical-IV:

One Question from PROGRAMMING IN JAVA (either or type)

7. **Passing Minimum :**

The candidate shall be declared to have passed the examination if the candidate secure not less than 40 marks out of 100 marks in the University examination in each theory and practical papers.

For Practical papers, the record note book taken together is required to pass the practical examination (Record: 20 Marks and Practical : 80 Marks). There is no passing minimum for the record note book. However submission of a record note book is a must.

8. **Classification Of Successful Candidates:**

Candidates who secure not less than 60% of the aggregate marks in the whole examination shall be declared to have passed the examination in First Class.

All other successful candidates shall be declared to have passed in the Second Class.

Candidates who obtain 75% of the marks in the aggregate shall be deemed to have passed the examination in First Class with Distinction provided they pass all the examinations prescribed for the course at the first appearance.

Candidates who pass all the examinations prescribed for the course in the first instance and within a period three academic years from the year of admission to the course only are eligible for University Ranking.

9. **Maximum Duration for the completion of the UG Programme:**

The maximum duration for completion of the UG Programme shall not exceed three years.

10. Commencement of this Regulation:

These regulations shall take effect from the academic year 2007-08, i.e., for students who are to be admitted to the first year of the course during the academic year 2007-08 and thereafter.

11.Transitory Provision:

Candidates who were admitted to the UG course of study before 2007-2008 shall be permitted to appear for the examinations under those regulations for a period of three years i.e., up to and inclusive of the examination of April/May 2010. Thereafter, they will be permitted to appear for the examination only under the regulations then in force.

PERIYAR UNIVERSITY, SALEM – 636 011.

(PRIDE)

Course	**B.Sc., Computer Science**
Effective From	2008 – 2009 and Onwards
Year	I
Subject	**Digital Computer Fundamentals**

UNIT – I:

Introduction to computers: Introduction-Types of Computers-Characteristics of Computers-Word Length-Speed-Storage-Accuracy-Versatility-Automation-Diligence.Five generations of Modern Computers: First Generation Computers-Second Generation Computers-Third Generation Computers-Fourth Generation Computers-Fifth Generation Computers. Number system: Introduction-Decimal Number System-Binary number System-Binary to decimal Conversion-Decimal to Binary Conversion-Binary Addition-Binary Subtraction-Complements-9's,10's,1's,2's - Octal Number System-Hexadecimal Number System.

UNIT – II:

Boolean Algebra and Gate Networks: Fundamental concepts of Boolean Algebra – Logical Multiplication - AND Gates and OR Gates - Complementation and Inverters - Evaluation of Logical Expressions - Evaluation of an Expression containing parentheses - Basic Laws of Boolean Algebra - Simplification of expressions - De Morgan's theorems - Basic Duality of Boolean Algebra - Derivation of a Boolean Expression - Interconnecting Gates-Sum of products and products of sums - Derivation of products of sums expressions - Derivation of three Input variable expression - NAND gates and NOR gates - The Map method for simplifying expressions - Sub cubes and covering - Product of sums. Expressions - Don't cares.

UNIT - III:

Anatomy of a Digital computer: Functions and Components of a Computer-Central Processing Unit-Control Unit-Arithmetic Logic Unit-Memory - Registers-Addresses-How the CPU and Memory Work. Memory units: Introduction- RAM - ROM - PROM - EPROM - EEPROM - Flash memory. Input Devices–Output Devices Auxiliary storage Devices: Introduction-Magnetic Tape-Hard disk-Floppy Disk-CD-ROM-CD-R Drive-CD-RW Disks.

UNIT – IV:

Combinational logic adders, substractors , decoders, encoders, multiplexer, demultiplexer – Flip flops – Registers – shift register – counters.

UNIT – V:

Computer design – System configuration – Computer instructions – Design of computer registers – Design of control – Computer console.

TEXT BOOK:

1. "Fundamentals of Computer Science and Communication Engineering". Alexis Leon , Mathew's Leon, (Unit I , & III)
2. "Digital Computer Fundamentals". Thomas C.Bartee, (Unit II & IV)
3. "Microprocessor Architecture programming and Application with the 8085", Ramesh Gaonkar, (Unit III & V).

PERIYAR UNIVERSITY , SALEM – 636 011.
(PRIDE)

Course	**B.Sc., Computer Science**
Effective From	2008 – 2009 and Onwards
Year	I
Subject	**Programming Language 'C' and Data Structure**

UNIT – I:

Overview Of C: History Of C – Importance Of C – Basic Structure Of C Programs. Constants, Variables And Data Types. Operators and Expression Managing Input And Output Operations: Reading And Writing A Character – Formatted Input And Output. Decision Making And Branching: Simple IF, IF-Else, Nesting Of IF-ELSE,ELSE-IF Ladder, Switch Statements - GOTO Statements. Decision Making And Looping: WHILE Statement- DO Statement-FOR Statement

UNIT – II:

Structure and unions – Arrays: Definition – One -Dimensional Arrays – Declaration Of One -Dimensional Arrays-Initialization Of One -Dimensional Arrays- Two- Dimensional Arrays – Initializing Two Dimensional Arrays – Multidimensional Arrays-Dynamic Arrays.

UNIT – III:

Character Arrays And Strings: Introduction – Declaring And Initializing String Variables - Reading Strings From Terminal – Writing Strings To Screen – String Handling Functions – pointers – Files – opening/closing files – file –

input/output – error handling during I/O operations – Random access to files – command line arguments.

UNIT – IV:

Data structures : Definition – Categories of data structures - Arrays: Array operations –Merging of two arrays - Two dimensional arrays. Stacks : Definition - Operations on stack -Representation of a stack as an array - Representation of a stack as an Linked list - Evaluation of expression : Infix to Prefix conversion – Infix to Postfix conversion.Queues : Definition - Operations on Queue - Representation of Queue as an array - Representation of Queue as an linked list – Circular Queues. Linked list : Definition - Operations on linked list – Circular list - Doubly linked list - Operations on doubly linked list - Polynomial addition.

UNIT – V:

Trees : Definition & Terminology - Binary trees - Traversal of a binary tree: In order, Pre order and Post order. Representation of a Binary trees in memory – Linked representation of binary trees – array representation of binary trees - Operations on a Binary search tree : Searching Operation - Insertion Operation and Deletion operation. Forest Tree : Conversion of a Forest Tree to Binary Tree - Graphs : Definition & Terminology - Graph representations - Graph travels : Depth first search & Breadth first search. Shortest path Algorithm (Using Dijikstra's Algorithm).

TEXTBOOK:

1) "Programming in ANSI C"
   E.Balgurusamy
2) "Data Structures through C"
   Yashavant Kanethar

PERIYAR UNIVERSITY, SALEM – 636 011.
(PRIDE)

Course	**B.Sc., Computer Science**
Effective From	2008 – 2009 and Onwards
Year	I
Subject	**Allied-I Allied Mathematics**

UNIT – I:

Characteristic Equation – eigen values and eigen vectors – properties – problems – rank of a matrix – problems – solutions of simultaneous equations using matrices – consistency condition. Polynomial equations – relation between roots and coefficients – imaginary roots and irrational roots – solving equations under given conditions – transformation of equations.

UNIT – II:

Definition of a derivative, different types of differentiation – standard formulae – successive differentiation - n^{th} derivative – Leibnitz formula – problems. Partial differentiation – Euler's theorem – Curvature – Radius of curvature in Cartesian co-ordinates.

UNIT - III:

Integration by parts – $\int_0^{\pi/2} \sin^n x\,dx$, $\int_0^{\pi/2} \cos^n x\,dx$, $\int_0^{\pi/4} \tan^n x\,dx$, $\int_0^{a} x^n e^{ax}\,dx$, $\int_0^{\alpha} e^{-x} x^n\,dx$ – Definite integrals – properties – reduction formulae – problems. Second order differential equations with constant coefficients – particular integrals of the type $e^{ax} V$ – where V is x or x^2 or cos ax or sin ax.

UNIT – IV:

Definition – complete, + - singular and general integrals solutions of standard types f(p,q) = 0, f(x,p,q) = 0,f(y,p,q) = 0, f(z,p,q) = 0, f1(x,p) = f2(x,p) – clariant's form – lagrange's equation Pp + Qq = R-problems.

UNIT – V:

Definition – laplace transform of standard functions – simple theorems – problems – inverse laplace transform – fourier coefficients – periodic functions with period 2p – half range series – cosine series – sine series – problems.

TEXT BOOK:

1. T.K.Manickavasagam pillai – ALLIED MATHEMATICS,
   S.Viswanathan & Co, Chennai.
2. P.R.Vittal – ALLIED MATHEMATICS,
   Margham Publications, Chennai.
3. A.Singaravelu – ALLIED MATHEMATICS,
   Meenakshi Traders, Chennai.

PERIYAR UNIVERSITY , SALEM -636 011.
(PRIDE)

Course	**B.Sc., Computer Science**
Effective From	2008-2009 and Onwards
Year	I
Practical - I	**Programming in 'C' using Data Structure**

List of Practical:

1. Matrix Manipulation.

2. Implement Push Pop operation of a stack using
   a. Arrays
   b. Pointers

3. Implement Add, Delete operations of a Queue using
   a. Arrays
   b. Pointers

4. Write a program to convert Infix to Postfix expressions using Arrays.

5. Write a program to add two polynomials using pointers.

6. Write a program to create a Doubly Linked List and to insert or delete an element from Doubly Linked List.

7. Perform all Tree Traversals for a Binary Tree using Arrays and Recursive.

8. Implement Dijikstra's algorithm to find the shortest path between
   given Source and Destination path of graph.

PERIYAR UNIVERSITY , SALEM -636 011.
(PRIDE)

Course	**B.Sc., Computer Science**
Effective From	2008-2009 and Onwards
Year	II
Subject	**System Analysis And Design**

UNIT-I:

Introduction to Information System Development: system Analysis and design - Business system concepts - Categories of Information systems - System development Strategies. Managing the application development portfolio: system projects are begun - Managing project review and selection - Preliminary investigation - Selecting the project development strategies.

UNIT-II:

Tools for determining system requirement: requirements determination - Fact finding techniques - Tools for documenting procedure and decision. Structured Analysis development strategies: Structured Analysis - Developing Data flow diagrams. Computer Aided systems tools: Role of tools - Categories of automated tools - CASE Tools - Benefits of CASE.

UNIT-III:

The Analysis to design transitions: Specifying application requirements - Objectives in designing Information systems - features , Design of computer output: identifying computer Output needs - presenting information - Designing printed output - Designing visual Display output. Design of input and control: What concerns guide input design - Capturing data for input - Input validation.

UNIT-IV:

Design of online dialogue: interface-Designing dialogue-Dialogue strategy - Data entry dialogues. Design of files and use of auxiliary storage devices: Basic file terminology - Data structure Diagrams - Types of files - Methods of file organization.

UNIT-V:

Systems Engineering and Quality assurance: Design objectives - Program structure charts - Design of software - Managing Quality assurance - Managing testing practices. Managing system implementation: Training-Conversion-post implementation review. Managing information systems development: Estimation and management of development time – Estimation – Personnel and development management. Hardware and Software selection: Hardware selection – Software Selection.

TEXTBOOK :

1) "Analysis and Design of Information Systems"
   James A. Senn
   TMH, New Delhi.
   2nd Edition.

PERIYAR UNIVERSITY , SALEM – 636 011.
(PRIDE)

Course	**B.Sc., Computer Science**
Effective From	2008 – 2009 and Onwards
Year	II
Subject	**Object – Oriented Programming With C++**

UNIT-I:

Principles Of Object-Oriented Programming : Software Evolution – A Look At Procedure-Oriented Programming – Object-Oriented Programming Paradigm - Basic Concepts Of Object-Oriented Programming - Benefits Of OOP – Object-Oriented Languages - Applications Of OOP.

UNIT-II:

Beginning With C++ : What Is C++ - Applications Of C++ - Structure Of C++ Program - A Simple C++ Program - More C++ Statements - An Example With Class. Tokens, Expressions And Control Structures: Introduction-Tokens-Keywords-Identifiers And Constants-Basic Data Types-User-Defined Data Types-Derived Data Types-Symbolic Constants-Type Compatibility-Declaration Of Variables-Dynamic Initialization Of Variables-Reference Variables-Operators In C++-Scope Resolution Operator-Member Dereferncing Operators-Memory Management Operators-Manipulators-Type Cast Operators-Expressions And Their Types-Special Assignment Expressions-Implicit Conversions-Operator Overloading-Operator Precedence-Control Structures. Functions In C++: Introduction - The Main Function - Function Prototyping - Call By Reference - Return By Reference - Inline Functions - Default Arguments - Const Arguments - Function Overloading - Friend And Virtual Functions.

UNIT-III:

Classes And Objects : Introduction - Specifying A Class - Defining Member Functions -A C++ Program With Class - Making An Outside Function Inline - Nesting Of Member Functions - Private Member Functions - Arrays Within A Class - Memory Allocation For Objects - Static Data Members - Static Member Functions - Arrays Of Objects - Objects As Function Arguments - Friendly Functions - Returning Objects - Const Member Functions -Pointers To Member - Local Classes. Constructors And Destructors: Introduction-Constructors-Parameterized Constructors-Multiple Constructors In A Class-Constructors With Default Arguments-Dynamic Initialization Of Objects-Copy Constructor-Dynamic Constructors-Constructing Two-Dimensional Arrays-Const Objects-Destructors.

UNIT-IV:

Operator Overloading And Type Conversions: Introduction-Defining Operator Overloading-Overloading Unary Operators-Overloading Binary Operators-Overloading Binary Operators Using Friends-Manipulation Of Strings Using Operators-Rules For Overloading Operators-Type Conversions – Inheritance Extending Classes: Introduction-Defined Derived Classes-Single Inheritance-Making A Private Member Inheritable-Multilevel Inheritance-Multiple Inheritance-Hierarchical Inheritance-Hybrid Inheritance-Virtual Base Classes-Abstract Classes-Constructors In Derived Classes-Member Classes: Nesting Of Classes. Pointers, Virtual Functions And Polymorphism: Introduction-Pointers To Objects-this Pointer-Pointer To Derived Classes-Virtual Functions-Pure Virtual Functions.

UNIT-V:

Managing Console I/O Operations: Introduction-C++ Streams-C++ Stream Classes-Unformatted I/O Operations-Formatted Console I/O Operations-Managing Output With Manipulators. Working With Files: Introduction-Classes For File Stream Operations-Opening And Closing A File-Detecting End-Of-File-More About Open():File Modes-File Pointers And Their Manipulations-Sequential Input And Output Operations-Updating A File: Random Access-Error Handling During File Operations-Command-Line Arguments. Templates: Introduction -Class Templates - Class Templates With Multiple Parameters - Function Templates - Function Templates With Multiple Parameters - Overloading Of Template Functions -Member Function Templates. Exception Handling: Introduction-Basics Of Exception Handling-Exception Handling Mechanism-Throwing Mechanism-Catching Mechanism-Rethrowing An Exception-Specifying Exceptions.

TEXTBOOK:

1) "Object-Oriented Programming with C++"
   E.Balagurusamy
   TMH ,New Delhi.
   2nd Edition.

PERIYAR UNIVERSITY, SALEM – 636011
(PRIDE)

Course	**B.Sc., Computer Science**
Effective From	2008 – 2009 and Onwards
Year	II
Allied-II Paper - II	**Management Accounting**

UNIT – I:

Management Accounting – Nature And Scope – Meaning – Definitions – Objects Of Management Accounting And Financial Accounting – Management Accounting And Cost Accounting.

UNIT – II:

Analysis And Interpretation Of Financial Statements – The Concept Of Financial Statement – Limitations Of Financial Statements – Analysis And Interpretation – Tools – Comparative Financial Statements – Common Size Financial Statements And Trend Percentages.

UNIT – III:

Ratio Analysis–Nature, Interpretation and Limitations of ratios–Short-term and Long-term financial ratios – Profitability. Efficiency, proprietory and Yielding ratios.

UNIT – IV:

Fund Flow Analysis – Concept of funds – Sources and uses of funds – Concept of Fund Flow Statement – Managerial uses of Fund Analysis Construction of fund flow Statement – Distinction of Cash from funds –

Utility of cash flow statement – Construction of cash flow statement**.**

UNIT – V :

Marginal Costing And Break – Even Analysis For Profit Management And Control. Capital Budgeting – Nature Of Capital Expenses – Concept Of Capital Budgeting–Capital Budgeting Procedures – Methods Of Ranking Investment. Proposals – Simple Problems Involving Payback Method – Average Rate Method And Discounted Cash Flow Methods.

TEXT BOOK:

"Principles of management Accounting "
S.N. Maheshwari, Sultan & Sons, New Delhi.
"Management Accounting"
Dr.S.Ganeshan & S.R.Kalavathi
Thirumalai Publication, Nagercoil.

REFERNCE BOOK :

Principles of management Accounting
Man Mohan and S.N. Goyal
Sahithya Bhanvnan, Agra.
Management Accounting
T.S.Reddy & Hari prased Reddy
Margham Publication, Chennai-17.

NOTE:

i) 70% of the question shall be problems oriented and 30% theory Oriented.

ii) This Paper has to be taught and examination papers to be valued only by Commerce Board.

PERIYAR UNIVERSITY , SALEM -636 011.
(PRIDE)

Course	B.Sc., Computer Science
Effective From	2008-2009 and Onwards
Year	II
Practical - II	**Programming in C++ using OOPS**

List of Practical:

1. Classes and Objects

2. Functions
   a. Inline functions
   b. Friend functions
   c. Functions with default argument
   d. Virtual functions

3. Constructors and Destructors
   a. Empty constructor
   b. Parameterized constructor
   c. Constructors with default arguments
   d. Copy constructors

4. Polymorphism
   a. Function overloading
   b. Operator overloading

5. Inheritance
   a. Single
   b. Multilevel
   c. Multiple
   d. Hirarchical
   e. Hybrid

6. Files

7. Templates
   a. Function templates
   b. Class templates
   c. Member function templates

PERIYAR UNIVERSITY , SALEM -636 011.
(PRIDE)

Course	B.Sc., Computer Science
Effective From	2008-2009 and Onwards
Year	III
Subject	**Data Base Management System**

UNIT I:

Overview of Database Systems: File System Versus a DBMS – Advantages of a DBMS – Describing and storing data in a DBMS-Structure of a DBMS – Introduction to Database Design: Introduction to ER Model – Conceptual design with the ER model – The Relational Model: Introduction to relational model-Integrity Constraints Over Relations – Introduction to Views – Destroying / Altering tables and Views.

UNIT II:

Relational Algebra and Calculus. SQL: Queries, Constraints, Triggers: The Form of a Basic SQL Queries – Union, Intersect and Except – Nested Queries – Aggregate Operators – Null Values – Triggers and Active Databases.

UNIT III:

Schema Refinement and Normal Forms, Security and Authorization: Introduction to Database Security – Access Control – Discretionary Access Control – Mandatory Access Control – Security for Internet Applications, Network Model, Hierarchical Model.

UNIT – IV:

Parallel and Distributed Databases : Introduction – Architectures for parallel Data bases – Parallel Query Evaluation – Parrallelizing individual

operations- parallel Query optimization-Introduction to Distributed Databases-Distributed DBMS Architecture-Sorting data in a distributed DBMS-Distributed catalog management-Distributed Query processing-Updating distributed data-Distributed transactions-Distributed concurrency control- Distributed recovery. Object-Database systems: Motivating example - Structured data types - operations on structured data - Encapsulation and ADTs - Inheritance – Objects,OIDs and reference types – Database design for an ORDBMS – ORDBMS implementation challenges – OODBMS – Comparing RDBMS , OODBMS and ORDBMS.

UNIT – V:

Data Warehousing and Decision Support: Introduction to decision support – OLAP: Multidimensional data model – Multidimensional Aggregation Queries – Window Queries in SQL : 1999 – Finding answers quickly – Implementation techniques for OLAP – Data warehousing – Views and decision support – View materialization – Maintaining materialized views, Data Mining: Introduction to Data Mining – Counting co-occurrences mining for rules – Tree structured rules – Clustering – Similarity search over sequences – Incremental mining and data streams – Additional data mining tasks.

TEXT BOOK :

1. " Database Managemt System"
   Ramakrishnan Gehrke
   MC Graw Hill Intunation Edition
   3rd Edition.
   (Unit I to Unit V)

2. Database System Concepts
   Abraham Silbuschatz, Hentry F.Korth and S.Sudharshan,
   MC Graw Hill.
   3rd Edition,
   (Unit III Last Two Topics Only)

PERIYAR UNIVERSITY , SALEM – 636 011.
(PRIDE)

Course	**B.Sc., Computer Science**
Effective From	2008 – 2009 and Onwards
Year	III
Subject	**Operating System**

UNIT-I :

Operating system overview : Operating system objectives and functions – Evaluation of O.S - Major achievements . Process Description and control : Process -Process states - Process description and control.

UNIT-II :

Threads , Concurrency : Principles of concurrency - Mutual Exclusion – Semaphores - Message passing. Deadlock : Principles of deadlock - Deadlock prevention - Deadlock avoidance - Deadlock detection.

UNIT-III :

Memory Management : Requirements - Memory partitioning – Paging - Segmentation. Virtual memory : Hardware and control structures - Operating system software.

UNIT-IV :

Uniprocessor scheduling : Types of processor – Scheduling - Scheduling algorithm -Multiprocess scheduling. I/O Management and Disk scheduling : I/O Devices-Organization of the I/O function - I/O Buffering - Disk scheduling.

UNIT-V:

File Management : Overview - File organization & Access - File Directories-File sharing-Record Blocking –Secondary storage management. Case studies: Unix-Process Management, Memory Management, I/O Management & File Management.

TEXT BOOK :

1. "Operating Systems – Internals & Design Principles"
William stallings.
Prentice-Hall of India P.Ltd, New Delhi-110001.
5th Edition.

PERIYAR UNIVERSITY, SALEM – 636011

(PRIDE)

Course	**B.Sc., Computer Science**
Effective From	2008 – 2009 and Onwards
Year	III
Subject	**Programming Language VISUAL BASIC**

UNIT – I:

Welcome to VB: What is Visual Basic – Features of Visual Basic – Visual Basic Editions – The Visual Basic Philosophy – Developing an Application. Creating an Application : Objectives – The Tool Box – Project Explorer – The Properties Window – The Form Window – Understanding Projects – What Does Visual Basic 6 have for you to Create Applications. 2nd Look at IDE, Forms and Controls: Objectives - The Form – The Working with a Control – Opening the Code Window. Variables in Visual Basic: Objectives – What is a Variable.

UNIT – II:

Writing Code In VB: Objectives – The Code Window - The Anatomy of Procedure – Editor Features - The For …Next Statement –The Decision Maker … If- Loop – The While Loop-Selective Case … End Select. Working With Files: Objectives – Visual Basic File System Controls – Types of Files – Working with Files.

UNIT – III:

Menus: Objectives – Building the User Interface. The first step – All about Menus. MDI Applications: Why MDI Forms – Features of an MDI Form – Loading MDI Forms and Child Forms – The Active Form property.

Debugging Tips: Objectives – The Debugging Methods. The Common Dialog Control: Working with the Common Dialog Control – The file open Dialog Box-Saving a file-Changing the color. Introduction To Databases: Why Databases – What is a Database – Which Database. Working with the Data Control: The Data Control – The Bound Controls – Caution – Coding.

UNIT – IV:

DAO: The Jet Database Engine – Functions of the Jet Database Engine – SQL – The DAO Object Model. Additional Controls Available in VB 6.0 – Objectives – SSTab Control. ActiveX Data Objects – Objectives – Why ADO – Establishing a Reference. .

UNIT – V:

Crystal And Data Reports: Crystal Reports – Data Report. Distributing your application: Objectives – Working with the Packaging and Deployment Wizard. ActiveX: Objectives – What is ActiveX – Why ActiveX. ActiveX and Web pages: Objectives – ActiveX and Internet. ActiveX Documents: The Application Form Document. Sample Application In VB Like Inventory Control.

TEXT BOOK:

"Programming With Visual Basic 6.0"

- Mohammed Azam.
- Vikas Publishing House Pvt Ltd.

PERIYAR UNIVERSITY,SALEM – 636011

(PRIDE)

Course	**B.Sc., Computer Science**
Effective From	2008–2009 and Onwards
Year	III
Subject	**Internet and Programming Language JAVA**

UNIT – I:

Internet Connection Concepts : Internet Communication Protocols- Types Of Internet Connections-Internet Service Providers-Security Issues On The Internet. E-Mail Concepts: How Do You Get Your E-Mail?-E-Mail Addressing-Message Headers-Downloading E-Mail-Formatted E-Mail-Attaching Files To Messages-Web Based E-Mail-Mail Away From Home-Avoiding Viruses. E-Mail Security: Reasons To Secure Messages, Public Key Cryptography, Using Cryptography With E-Mail – Online Chatting And Conferencing Concepts: Forms Of Chat, Messaging And Conference-How The Chat Work. WWW Concepts: Elements Of The Web, Web Browsers, Security And Privacy Issues.

UNIT – II:

Fundamentals Of Object Oriented Programming : Introduction-Object-Oriented Paradigm-Basic Concepts Of Object-Oriented Programming-Benefits Of OOP-Applications Of OOP. JAVA Evolution :JAVA History-JAVA Features-How JAVA Differs From C And C++-JAVA And Internet JAVA And World Wide Web-Web Browsers-Hardware And Software Requirements-JAVA Support Systems-JAVA Environment. Overview Of JAVA Language : Introduction Simple JAVA Program-More Of JAVA –An Application With Two Classes-JAVA Program Structure-JAVA Tokens-JAVA Statements –

Implementing A Java Program-Java Virtual Machine-Command Line Arguments-Programming Style. Constants, Variables And Data Types : Constants-Variables-Data Types-Declaration Of Variables Giving Values To Variables scope Of Variables-Symbolic Constants-Type Casting-Getting Values Of Variables. Operators And Expressions : Introduction-Arithmetic Operators-Relational Operators-Logical Operators-Assignment Operators-Increment And Decrement Operators-Conditional Operators-Bit wise Operators-Special Operators-Arithmetic Expressions-Evaluation Of Expressions-Precedence Of Arithmetic Operators-Type Conversions In Expressions-Operator Precedence And Associativity-Mathmatical Functions. Decision Making And Branching : Introduction-Decision Making With If Statement-Simple if Statement-The if.. else Statement-Nesting Of if.. else Statements-The else if Ladder-The Switch Statement. Decision Making And Looping : Introduction –The While Statement-The do Statement-The for Statement-Jumps In Loops-Labeled Loops.

UNIT – III:

Classes, Objects And Methods : Introduction-Defining A Class Adding Variables-adding Methods-Creating Objects-Accessing Class Members-Constructors-Methods Overloading-Static Members-Nesting Of Methods-Inheritance: Extending A Class-Overriding Methods-Final Variables And Methods-Final Classes-Finalizer Methods-Abstract Methods And Classes-Visibility Control. Arrays, String And Vectors : Arrays-One-Dimensional Arrays-Creating An Array-Two-Dimensional Arrays-Strings-Vectors-Wrapper Classes. Interface: Multiple Inheritance: Introduction-Defining Interfaces-Extending Interfaces-Implementing Interfaces-Accessing Interface Variables.

UNIT – IV:

Packages: Putting Classes Together: Introduction-JAVA API Packages – Using System Packages-Naming Conventions-Creating Packages-Accessing A Package-Using A Package-Adding A Class To A Package-Hiding Classes. Multithreaded Programming :Introduction-Creating Threads-Extending The Thread Class-Stopping And Blocking A Thread-Life Cycle Of A Thread-Using Thread Methods-Thread Exceptions-Thread Priority-Synchronization-Implementing The 'Runnable' Interface. Managing Errors And Exceptions: Introduction-Types Of Errors-Exceptions-Syntax Of Exception Handling Code-Multiple Catch Statements-Using Finally Statement-Throwing Our Own Exceptions-Using Exceptions For Debugging.

UNIT – V:

Applet Programming :Introduction-How Applets Differ From Applications-Preparing To Write Applets-Building Applet Code-Applet Life Cycle-Creating An Executable Applet-Designing A Web Page-Applet Tag-Adding Applet To HTML File-Running The Applet-More About Applet Tag-Passing Parameters To Applets-Aligning The Display-More About HTML Tags -Displaying Numerical Values-Getting Input From The User. Graphics Programming :Introduction-The Graphics Class-Lines And Rectangles-Circles And Ellipses-Drawing Arcs-Drawing Polygons-Line Graphs-Using Control Loops In Applet-Drawing Bar Charts. Managing Input /Output Files: Introduction-Concept Of Streams-Stream Classes-Byte Stream Classes-Character Stream Classes-Using Stream-Other Useful I/O Classes-Using The File Classes-Input/Output Exceptions-Creation Of Files-Reading/Writing Characters-Reading/Writing Bytes-Handling Primitive Data Types-Concatenating And Buffering Files-Random Access Files-Interactive Input And Output–Other Stream Classes.

TEXT BOOKS:

"The Complete Reference – Internet Millennium Edition."

Margaret Levine Young.

T.M.H,New Delhi.

(Unit-I)

"Programming with JAVA"

E.Balagurusamy.

T.M.H,New Delhi.

2nd Edition.

(Unit-II to V)

PERIYAR UNIVERSITY , SALEM – 636 011.
(PRIDE)

Course	**B.Sc., Computer Science**
Effective From	2008–2009 and Onwards
Year	III
Practical-III	**Programming in VISUAL BASIC and RDBMS**

LIST OF PRACTICALS :

USING SQL QUERIES :

1. **Creating Tables and Writing Simple SQL Queries Using**
   - **a. Comparison Operators.**
   - **b. Logical Operators.**
   - **c. Set Operators.**
   - **d. Sorting and Grouping.**
2. **Using SQL Queries to Create Reports Using Column Format.**
3. **Write SQL Queries Using Built-in Functions.**
4. **Updating and Altering Tables Using SQL Queries.**

USING VISUAL BASIC :

5. **Construction of an Arithmetic Calculator (Simple).**
6. **Preparation of Students Mark Sheet.**
7. **Personal Information System (Using Tables).**
8. **Quiz Program System (Using Tables).**
9. **Railways Reservation System (Using Tables).**
10. **Voters Information System (Using Tables).**
11. **Library Information System (Using Tables).**

PERIYAR UNIVERSITY , SALEM – 636 011.
(PRIDE)

Course	B.Sc., Computer Science
Effective From	2008–2009 and Onwards
Year	III
Practical-IV	**Programming in JAVA**

HTML PROGRAMMING USING TAGS :

1. **Simple Web Page.**
2. **Hyper Linked Web Page,** <^> < ^\>
3. **Web Page with Image <IMG SRC=" ">**
4. **Web Page with Applet <Applet>**
5. **Web Page with Table <TB>**

JAVA PROGRAMMING LIST :

6. **Program to Create a Simple Applet and Application.**
7. **Using Java Classes and Objects.**
8. **Using Java Inheritance and Interface.**
9. **Using Arrays in Java.**
10. **Using Exceptions.**
11. **Using Threads and Multithreads.**
12. **Using AWT Package.**
13. **Using I/O Package.**