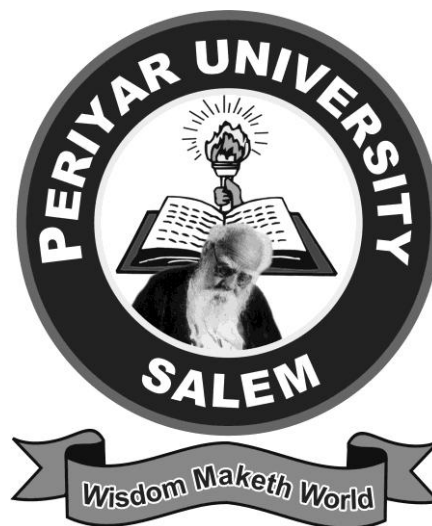


**PERIYAR UNIVERSITY
SALEM – 636 011**

PERIYAR INSTITUTE OF DISTANCE EDUCATION (PRIDE)



B.C.A. (COMPUTER APPLICATIONS)

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 subject 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 Bachelor of Computer Application 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 Application shall consist of three academic.

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 COBOL	100
5.	P07UMAA03	Allied-I Allied Mathematics	100
6.		Practical-I Programming in COBOL	100

II - YEAR

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

III - YEAR

S.No	Paper Code	Subject	Marks
1.		E – Commerce	100
2.		Operating System	100
3.		Programming Language VISUAL BASIC	100
4.		Programming Language JAVA and JAVA SCRIPT	100
5.		Practical-III Programming in VISUAL BASIC	100
6.		Practical-IV Programming in JAVA and JAVA SCRIPT	100

3.(a). Allied Papers:

I –Year

S.No	Paper Code	Subject	Marks
1.	P07UMAA03	Allied – I Allied 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 the 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 COBOL	3	100
5.		Allied-I Allied Mathematics	3	100
6.		Practical – I Programming in COBOL	3	100
II - YEAR				
7.		System Analysis and Design	3	100
8.		Relational Database Management System	3	100
9.		Programming Language C and Data Structure	3	100
10.		Object Oriented Programming with C++	3	100
11.		Allied – II Management Accounting	3	100
12.		Practical – II Programming in C and C++ using Data Structure and OOPS	3	100

III - YEAR

13.	E –Commerce	3	100
14.	Operating System	3	100
15.	Programming Language VISUAL BASIC	3	100
16.	Programming Language JAVA and JAVA SCRIPT	3	100
17.	Practical – III Programming in VISUAL BASIC	3	100
18.	Practical-IV Programming in JAVA and JAVA SCRIPT	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 COBOL (either or type)

Practical-II:

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

AND

One Question from C++ using OOPS (either or type)

Practical-III:

One Question from VISUAL BASIC (either or type)

Practical-IV:

One Question from JAVA PROGRAMMING (either or type)

(AND)

One Question from JAVA SCRIPT (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.C.A
Effective From	2008 – 2009 and Onwards
Year	I
Subject	Digital Computer Fundamentals

UNIT – I:

Introduction to computers: Introduction-Types of Computers-Characteristics of Computers-Wordlength-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, subtractors , 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).

(PRIDE)

Course	B.C.A
Effective From	2008–2009 and Onwards
Year	I
Subject	Programming Language COBOL

UNIT – I:

Introduction to COBOL language – Rules, conventions and definition COBOL divisions – Identification division, Environment division, Data division with editing features.

UNIT – II:

Procedure division – verbs for the concepts and programming preliminaries – OPEN, CLOSE, READ, WRITE – DATA movement verb – Arithmetic verbs – ADD, SUBTRACT, MULTIPLY, DIVIDE, COMPUTE.

UNIT - III:

Conditional and sequence control verbs – Relational condition, sign, class, condition – name, compound conditions and IF sentence – More about data division clauses – REDEFINES, renames, justified, Qualification of data name, SIGN, SYNCHRONIZED, CORRESPONDING option.

UNIT – IV:

Table handling with perform verb – Times option, until, varying – After option, Indexed table with indexing, SET, SEARCH verb, sorting a table.

UNIT – V:

File – Sequential and direct access file features – Simple illustrative programs.

TEXT BOOK:

1. “Programming in COBOL”, Rajaraman V., PHI, New Delhi .
2. “COBOL Programming Including MS – COBOL and COBOL – 85”

M.K.Roy, D.Ghosh Dastidar, TMH, New Delhi.

PERIYAR UNIVERSITY, SALEM – 636 011.
(PRIDE)

Course	B.C.A
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 $f(p,q) = 0$, $f(x,p,q) = 0$, $f(y,p,q) = 0$, $f(z,p,q) = 0$, $f_1(x,p) = f_2(x,p)$ – Clairant’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.
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Course	B.C.A
Effective From	2008 – 2009 and Onwards
Year	I
Practical – I	Programming in COBOL

COBOL PROGRAMMING LIST:

1. Finding Sum of N Natural Numbers.
2. Program to Calculate the Simple and Compound Interest.
3. Program to Sort N Numbers in Ascending/Descending Order.
4. Program to Add / Subtract two Matrices
5. Program to Multiply two Matrices.
6. Program for Inventory Control.
7. Preparation of Mark Sheet/Exam Result Processing.
8. Program for Electricity Bill Preparation.
9. Program for Library Information System-Updating Issues and Receipts.
10. Sequential Files-Sorting/Merging.

**PERIYAR UNIVERSITY , SALEM -636 011.
(PRIDE)**

Course	B.C.A
Effective From	2008-2009 and Onwards
Year	II
Subject	System Analysis And Design

UNIT-I:

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

UNIT-II:

Tools for determining system requirement: What is 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 - What features must be designed? Design of computer output: How to identify computer Output needs - How to present 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: How is online different? - What is an 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.C.A
Effective from	2008-2009 and Onwards
Year	II
Subject	Relational Data Base Management System

UNIT-I:

Introduction : purpose of Database systems – View of data – Data models – Database languages – Transaction management – Storage management – database Administrator – Database users – Overall system structure. Entity relationship model: Basic concepts- keys – Entity relationship Diagram- Weak entities sets – Extended ER features : Specialization – generalization. Relational model: Structure of relational databases – The relational Algebra – views.

UNIT-II:

SQL: Background – Basic structure – set operations – Aggregate functions – null values – Nested sub queries – Derives Relations – views – modification of database – joined relations – data definition languages – Embedded SQL – other SQL features.

UNIT-III:

Integrity constraints : Domain constraints – Referential Integrity – Assertions – triggers- Functional Dependencies. Relational database design: pitfalls in relational database design – Decomposition – normalization using functional Dependencies – normalization using multilevel Dependencies – Normalization using join Dependencies. Object oriented Databases: New database applications – The object Oriented data model – Object Oriented Languages – Persistent programming Languages.

UNIT-IV:

Object Relational Databases: Nested relations – Complex types and Object Orientation – querying with complex Data types – Creation of complex values and objects – Comparison of Object – oriented relational databases.

UNIT-V:

New Applications: Decision support systems – Data Analysis – Data mining – Data warehousing – Spatial and Geographic Databases – Multimedia Databases – Mobility and personal Databases – Information – retrieval systems- Distributed information systems- The World Wide Web.

TEXT BOOK:

1. “Database system concepts”

Abraham Silberschatz, Hendry F. Korth, S. Sudharshan

Third edition

MC Graw Hill International edition- 1997.

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(PRIDE)**

Course	B.C.A
Effective From	2008 – 2009 and Onwards
Year	II
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 Dijkstra's Algorithm).

TEXTBOOK:

- 1) “Programming in ANSI C”
E.Balgurusamy
- 2) “Data Structures through C”
Yashavant Kanethar

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Course	B.C.A
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 Dereferencing 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-ParameterizedConstructors-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
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Course	B.C.A
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, proprietary 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.

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Course	B.C.A
Effective From	2008-2009 and Onwards
Year	II
Practical - II	Programming in C and C++ using Data Structure and OOPS

List of Practicals:

Programming in C using Data Structures

1. Implement Push Pop operation of a stack using
 - a. Arrays
 - b. Pointers
2. Implement Add, Delete operations of a Queue using
 - a. Arrays
 - b. Pointers
3. Write a program to create a Doubly Linked List and to insert or delete an element from Doubly Linked List.
4. Perform all Tree Traversals for a Binary Tree using Arrays and Recursive.
5. Implement Dijkstra's algorithm to find the shortest path between given Source and Destination path of graph.

Programming in C++ using OOPS

6. Classes and Objects
7. Functions
 - a. Inline functions
 - b. Friend functions
 - c. Functions with default argument
 - d. Virtual functions
8. Constructors and Destructors
 - a. Empty constructor
 - b. Parameterized constructor
 - c. Constructors with default arguments
 - d. Copy constructors

9. Polymorphism

- a. Function overloading
- b. Operator overloading

10. Inheritance

- a. Single
- b. Multilevel
- c. Multiple
- d. Hirarchical
- e. Hybrid

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Course	B.C.A
Effective From	2008–2009 and Onwards
Year	III
Subject	E-Commerce

UNIT – I:

Electronic Commerce: Electronic Commerce - Electronic Data Interchange - Value Added Networks – Electronic Commerce Over The Internet – Internet Commerce Examples – Commerce Net. PCs and Networking: Networking – Communication Media. Electronic Mail: Computer Communication Systems – ISO’S Open System Interconnection Model – Electronic Mail – The X.400 Message Handling System – Internet Mail – E-Mail Security – X.500 Directory Services – Mail User Agent.

UNIT – II:

The Internet: The Internet : A Brief Introduction- Internet Communication Protocols – Internet Services and Resources – Internet Mail – Internet Search – Concerns About The Internet – Browsers – Hypertext Markup Language - Java – The Java Electronic Commerce Framework – Internet 2. Intranets: Intranet - Intranet services – Intranet Implementation – The Webmaster. Electronic Data Interchange: Electronic Data Interchange - Costs and Benefits – Components of EDI Systems – EDI Implementation Issues – Legal Aspects.

UNIT – III:

The UN/EDIFACT Standard: Introduction - An EDIFACT Message – Interchange structure – UN/EDIFACT Message Directories. The Internet and Extranets for Electronic Commerce: E-Commerce – Commerce Over The Internet – Commerce Over Extranets. Identification and Tracking Tools for Electronic Commerce: The EAN System – EANCOM – Article. Numbering – Bar Coding –The serial shipping container code and the EAN label – EAN Location Numbers – How It Works: Warehousing Example. Internet Bandwidth and Technology Issues: Bandwidth Issues – Technology Issue For The Internet/NII – NII Standards – NII services – Actors In The NII – NII Agenda – GII.

UNIT – IV:

Security Issues: Security Concerns – Security solutions - Electronic Cash Over The Internet – Security and UN/EDIFACT Messages – Internet Security – Guidelines For Cryptography Policy. Business Process Reengineering: Introduction - Approach to BPR – Strategic Alignment Model – BPR Methodology. Management of Change: Change Management – Change Management In Public Administration – The Implementation Plan.

UNIT – V:

Legal Issues: Legal Issues - Risks: Paper Document Versus Electronic Document – Technology For Authenticating an Electronic Document – Laws For E-Commerce – EDI Interchange Agreement – Legal Issues For Internet Commerce. E-Commerce in India: EDI in India – The Internet in India – Laws For E-Commerce in India. Getting Started: Getting Connected: What Do You Need? – Setting Up a Website – Web Servers – Business -To-Business EC - Payment For Goods and Services – Bottlenecks.

Case Studies: EDI in Indian customs- US Electronic Procurement- Banks - EDI Pilot Project in the Automotive Industry.

TEXT BOOK:

“ E – Commerce - The cutting edge of Business “

Kamlesh K Bajaj and Debjani Nag.
Fourth Reprint 2000.

TMH, New Delhi.

Course	B.C.A
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.C.A
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:

1. “Programming With Visual Basic 6.0”
 - Mohammed Azam.
 - Vikas Publishing House Pvt Ltd.

PERIYAR UNIVERSITY , SALEM – 636 011.
(PRIDE)

Course	B.C.A
Effective From	2008–2009 and Onwards
Year	III
Subject	Programming Language JAVA and JAVASCRIPT

UNIT-I:

Fundamentals of object-oriented programming, Java evolution, overview of JAVA language: Introduction- JAVA program structure – simple JAVA program- JAVA tokens- JAVA statements- Implementing a JAVA program- JAVA virtual machine- command line arguments.

UNIT-II :

Constants, variables and data types, operators and expressions , decision making and branching, decision making and looping.

UNIT-III :

Class, Objects and methods, arrays, strings and vectors, interfaces: Multiple inheritance, packages : Putting classes together, Multithreaded programming.

UNIT-IV :

Managing errors and Exceptions, Applet programming, Graphic programming, managing i/o files in JAVA.

UNIT-V :

Introduction to JAVA SCRIPT, placing JavaScript in an HTML file, Using variables, using functions, event handlers, Objects: predefined java script objects, the document object, window object, java script arrays, math and date object, handling strings, java script and forms.

TEXT BOOK :

1. “Programming with JAVA”
E.Balagurusamy
T.M.H, New Delhi
Second Edition
(Unit I to IV)
2. “Java Script a beginners Guide”
John Pollock
T.M.H, New Delhi
(Unit V)

**PERIYAR UNIVERSITY , SALEM – 636 011.
(PRIDE)**

Course	B.C.A
Effective From	2008–2009 and Onwards
Year	III
Practical-III	Programming in VISUAL BASIC

LIST OF PRACTICALS:

1. Construction of an Arithmetic Calculator (Simple).
2. Preparation of Students Mark Sheet.
3. Personal Information System (Using Tables).
4. Quiz Program System (Using Tables).
5. Railways Reservation System (Using Tables).
6. Voters Information System (Using Tables).
7. Library Information System (Using Tables).

PERIYAR UNIVERSITY, SALEM – 636 011.
(PRIDE)

Course	B.C.A
Effective From	2008–2009 and Onwards
Year	III
Practical-IV	Programming in JAVA and JAVA SCRIPT

JAVA SCRIPT Programming List :

1. To develop a Dynamic Web Page using Java Script.
2. Program to create an HTML page with Java Script.
3. Program to create an HTML page using Event Handling.
4. Develop a Java Script using document and window object.
5. Program to create a Java Script clock.
6. Program to work with Forms Using Java Script.

JAVA Programming List :

7. Program to create a simple applet and application
8. Using java class and objects
9. Using java Inheritance and Interface
10. sing Arrays in java
11. Using Threads and Multithreads
12. Using AWT package
13. Using I/O package