BHARATHIAR UNIVERSITY: COIMBATORE-641 046
B.Sc. CS/IT/CT/SS/MM/CSA & BCA
(For the students admitted from the academic year 2011-2012 and onwards)

SCHEME OF EXAMINATION - CBCS PATTERN

<table>
<thead>
<tr>
<th>Part</th>
<th>Study Component(s)</th>
<th>Course title</th>
<th>Ins. hrs/week</th>
<th>Examinations</th>
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<td>Core 7: Java Programming</td>
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### Semester V

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### Semester VI

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### Total

|               | 3500 | 140 |

@  No University Examinations. Only Continuous Internal Assessment (CIA)

#  No Continuous Internal Assessment (CIA). Only University Examinations.

%&  In lieu of theory paper – see Project Work Guidelines

&&  Please see Annexure for list of Allied, Elective and Skill Based Subjects
BHARATHIAR UNIVERSITY: COIMBATORE-641 046
B.Sc. CS/IT/CT/SS/MM/CSA & BCA
(For the students admitted from the academic year 2011-2012 and onwards)
SCHEME OF EXAMINATION - CBCS PATTERN
List of Allied, Elective & Skill Based Subjects

<table>
<thead>
<tr>
<th>COURSE</th>
<th>BSc Computer Science</th>
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<tbody>
<tr>
<td>Allied-1</td>
<td>Mathematical Structures for Computer Science</td>
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<tr>
<td>Allied-2</td>
<td>Discrete Mathematics</td>
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<tr>
<td>Allied-3</td>
<td>Computer Based Optimization Techniques</td>
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<tr>
<td>Allied-4</td>
<td>Business Accounting</td>
</tr>
<tr>
<td>Elective- I</td>
<td>E-Learning*/Computer Networks/ Organizational Behavior*</td>
</tr>
<tr>
<td>Elective- II</td>
<td>Network Security and Cryptography/ Artificial Intelligence and Expert Systems / Web Technology</td>
</tr>
<tr>
<td>Elective- III</td>
<td>Data Mining*/ Open source software*/Mastering LAN &amp; Trouble Shooting</td>
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<tr>
<td>Skill-1</td>
<td>Software Engineering and Software Project Management*</td>
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<tr>
<td>Skill-2-Lab</td>
<td>Software Project Management- Lab*</td>
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<td>Skill-3</td>
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**BSc Computer Technology**

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<tbody>
<tr>
<td>Allied-2</td>
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<td>Allied-3</td>
<td>Microprocessor &amp; ALP</td>
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<td>Allied-4</td>
<td>TCP/IP Protocol*</td>
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<tr>
<td>Elective- II</td>
<td>Middleware Technologies*/Animation Techniques/ Computer installation &amp;Servicing</td>
</tr>
<tr>
<td>Elective- III</td>
<td>Data Mining*/Embedded Systems/ Computer Aided Design and Manufacturing</td>
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<tr>
<td>Skill-1</td>
<td>Data communication &amp; Networks</td>
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<tr>
<td>Skill-2</td>
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<td>Skill-3</td>
<td>Network security &amp; management</td>
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<td><strong>Skill-3</strong></td>
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<tr>
<td><strong>Skill-4-lab</strong></td>
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</tbody>
</table>
### BSc Multi Media & Web technology

| Allied-1 | Mathematical Structures for Computer Science |
| Allied-2 | Discrete Mathematics |
| Allied-3 | Web Services |
| Allied-4 | Digital Image Processing |
| Elective- I | Web Technology /Software Engineering/ CASE Tools Concepts and applications* |
| Elective- II | Flash/Distributed Computing/ Multimedia Systems |
| Elective- III | 3Ds MAX Animation/ Software Project Management / Organizational Behavior* |
| Skill-1 | Introduction to PHP Programming |
| Skill-2 | PHP Programming Lab |
| Skill-3 | Animation Techniques |
| Skill-4 | Animation – Lab- FLASH |

### BSc Computer Science & Applications

| Subject | BSc Computer Science &Applications |
| Allied-1 | Mathematical Structures for Computer Science |
| Allied-2 | Discrete Mathematics |
| Allied-3 | Management information Systems |
| Allied-4 | Organizational Behavior* |
| Elective- I | Client -Server Computing /E-Commerce/Software Engineering |
| Elective- II | Network Security & Cryptography/Distributed Computing/ Computer Networks |
| Elective- III | Mobile Computing/Web Technology/Software Testing |
### Subject

<table>
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<tr>
<th>Skill-1</th>
<th>Internet Programming*</th>
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<td>Skill-2</td>
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<tr>
<td>Skill-3</td>
<td>WEB DESIGNING WITH ASP &amp; ASP. Net</td>
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<td>Skill-4</td>
<td>ASP LAB</td>
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### Subject

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<td>Allied-1</td>
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<td>Discrete Mathematics</td>
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<td>Allied-3</td>
<td>Computer Based Optimization Techniques</td>
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<td>Allied-4</td>
<td>Business Accounting</td>
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<tr>
<td>Elective- I</td>
<td>Introduction to compiler design/ PHP &amp; Scripting Language*/ Digital Image Processing</td>
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<td>Elective- II</td>
<td>Computer Networks / .Net Programming / Distributed Computing</td>
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<td>E-Commerce/ Web Services / Artificial Intelligence and Expert Systems</td>
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<tr>
<td>Skill-1</td>
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<td>Skill-3</td>
<td>CASE Tools Concepts and applications*</td>
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<td>Skill-4</td>
<td>CASE Tools –Lab*</td>
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Bharathiar University: Coimbatore-641 046
B.Sc. CS/IT/CT/SS/MM/CSA & BCA
(For the students admitted from the academic year 2011-2012 and onwards)

CBCS Pattern

Core Subjects

<table>
<thead>
<tr>
<th>Course</th>
<th>BSc CS, IT, CT, SS, CSA, MM &amp; B.C.A (Regular)</th>
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<tr>
<td>Subject</td>
<td>CORE 1 : Computing Fundamentals and C Programming</td>
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</table>

Subject Description: This subject deals with the Computer fundamentals and the concepts of C programming language.

Goal: To learn about the Computer fundamentals and the C programming language concepts.

Objective: On successful completion of this subject the students have the programming ability in C Language.


UNIT V: Pointers: Introduction-Understanding pointers-Accessing the address of a variable-Declaration and Initialization of pointer Variable – Accessing a variable through its pointer-Chain of pointers- Pointer Expressions – Pointer Increments and Scale factor- Pointers and Arrays- Pointers and Strings – Array of pointers – Pointers as Function Arguments-Functions returning pointers – Pointers to Functions – Pointers and Structures. File Management in C.

TEXT BOOK:

REFERENCE BOOK:

<table>
<thead>
<tr>
<th>Course</th>
<th>BSc CS, IT, CT, SS, CSA, MM &amp; B.C.A (Regular)</th>
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<td>Subject</td>
<td>CORE 2 : DIGITAL FUNDAMENTALS AND ARCHITECTURE</td>
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Subject Description: This subject deals with fundamentals of digital computers, Microprocessors and System architecture.

Goal: To learn about Computer Fundamentals and its Architecture.

Objective: On successful completion of this subject the students should have Knowledge on Digital circuits, Microprocessor architecture, and Interfacing of various components.


UNIT-V: CASE STUDY: Pin out diagram, Architecture, Organization and addressing modes of 80286-80386-80486-Introduction to microcontrollers.

TEXT BOOKS:
1. Digital principles and applications, Albert Paul Malvino, Donald P Leach , TMH,1996.
2. COMPUTER SYSTEM ARCHITECTURE -M. Morris Mano , PHI.
3. MICROPROCESSORS AND ITS APPLICATIONS-RAMESH S.GOANKAR

REFERENCE BOOKS:
1. DIGITAL ELECTRONICS CIRCUITS AND SYSTEMS - V.K. Puri , TMH.
2. COMPUTER ARCHITECTURE , M. Carter , Schaum’s outline series, TMH.

<table>
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</table>

1. Write a C program to find the sum, average, standard deviation for a given set of numbers.
2. Write a C program to generate “n” prime numbers.
3. Write a C program to generate Fibonacci series.
4. Write a C program to print magic square of order n where n > 3 and n is odd.
5. Write a C program to sort the given set of numbers in ascending order.
6. Write a C program to check whether the given string is a palindrome or not using pointers.
7. Write a C program to count the number of Vowels in the given sentence.
8. Write a C program to find the factorial of a given number using recursive function.
9. Write a C program to print the student’s Mark sheet assuming roll no, name, and marks in 5 subjects in a structure. Create an array of structures and print the mark sheet in the university pattern.
10. Write a function using pointers to add two matrices and to return the resultant matrix to the calling function.
11. Write a C program which receives two filenames as arguments and check whether the file contents are same or not. If same delete the second file.
12. Write a program which takes a file as command line argument and copy it to another file. At the end of the second file write the total i) no of chars ii) no. of words and iii) no. of lines.
Subject Description: This subject deals with the programming concepts on business applications using COBOL language.

Goal: To learn about COBOL programming language for business problems

Objective: On successful completion of this subject the students should have:
- Writing programs for business applications
- Concepts of file handling in programming languages


TEXT BOOKS:

REFERENCE BOOKS:
1. COBOL programming – V. Rajaraman, PHI Pub.
2. Introduction To Cobol Programming – Author Dr. R. Krishnamoorthy, JJ Publications.
Course | BSc CS, IT, CT, SS, CSA, MM & B.C.A (Regular)
---|---
Effective from | 2011-2012 and Onwards
Semester | II
Subject | CORE LAB II : PRACTICAL LIST- PROGRAMMING LAB – COBOL

1. Write a COBOL program to find the sum of individual digits of a 10-digit number until a single digit is produced.
2. Write a COBOL program to accept the inputs student Name, Marks for five subjects and declare the result as PASS, if the student gets minimum 40 in each subject otherwise declare the result as FAIL.
3. Write a COBOL program to accept a date (DDMMYY) and display the result in the following specified format: For eg : 030498 as 3rd APR 1998 [Use REDEFINES Clause].
4. Write a COBOL program to display the given three digit number into words using OCCURS clause For eg : 342 THREE HUNDRED AND FORTY TWO
5. Write a COBOL program to create a student data file using the following fields: ROLL-NO, NAME, AGE, SEX, YEAR-IN-COLLEGE, MARKS for five subjects.
6. Write a COBOL program to create the following two files using the student data file (Created by pro gram 5).
   FILE 1: List of male student who are studying third year of the College.
   FILE 2: List of female students who are studying first year of the College. [Use MOVE……CORRESPONDING Option]
7. Write a COBOL program to sort the student data file (created by program-5) in the ascending order of the fields SEX, Year-in-college and ROLL-NO. [Use SORT Verb].
8. Write a COBOL program to create an Employee file for the employees of an organization using the following fields: EMP-NO, NAME, DOB, SEX, BASIC-PAY, DESIGNATION.
9. Write a COBOL program to update the new BASIC-PAY of each employee in the Employee data file (created in program 8) by incrementing 25% of BASIC-PAY.
10. Write a COBOL program to find the number of male employees whose BASIC-PAY > 4000 and the number of female employees whose BASIC-PAY < 3000 using the employee data file (created by program 8).
11. Write a COBOL program to create an inventory data file by using the following fields: ITEM-CODE, DESCRIPTION, OPEN-STOCK, PURCHASES, SALES, SAFETY-LEVEL, CLOSE-STOCK.
12. Write a COBOL program to prepare RE-ORDER LEVEL STATEMENT by using the inventory data file (crated by program 11) if the CLOSE-STOCK is less than SAFETY-LEVEL:

A.B.C.& COMPANY, CHENNAI-600006
RE-ORDER LEVEL STATEMENT

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</table>
Course | BSc CS, IT, CT, SS, CSA, MM & B.C.A (Regular)
---|---
Effective from | 2011-2012 and Onwards
Semester | II
Subject | CORE LAB III : PRACTICAL LIST- Internet Basics

1. To create an email-id.
2. To compose and send a mail.
3. To forward a mail and to reply for a mail.
4. To send a mail with an attachment.
5. To download the attached document of a mail received.
6. To send a mail to a large number of recipients using cc and bcc options.
7. To search a thing using a search engine.
8. To open and read newspaper sites, TV program schedules using Internet.
9. To verify a university /college details by opening their websites.
10. To upload your resume with any one job portal.

Semester III - Core 4 : Subject Title: DATA STRUCTURES

UNIT I

UNIT II

UNIT III

UNIT IV
UNIT V
Internal Sorting: Insertion Sort - Quick Sort - 2 Way Merge Sort - Heap Sort - Shell Sort - Sorting on Several Keys. Files: Files, Queries and Sequential organizations - Index Techniques -File Organizations.

TEXT BOOKS
1. Ellis Horowitz, Sartaj Shani, Data and File Structures Galgotia Publication.
2. Ellis Horowitz, Sartaj Shani, Sanguthevar Rajasekaran, Computer Algorithms Galgotia Publication.

SEMESTER III  CORE 5 : C++ PROGRAMMING

Subject Description: This subject deals with Object–oriented programming concepts like Abstraction, Encapsulation, Inheritance and Polymorphism.
Goal: Knowledge on Object–oriented concept and programming with C++.
Objective: To inculcate knowledge on Object-oriented programming concepts using C++.

UNIT-I: Introduction to C++ - key concepts of Object-Oriented Programming –Advantages – Object Oriented Languages – I/O in C++ - C++ Declarations. Control Structures : - Decision Making and Statements : If .. else , jump, goto, break, continue, Switch case statements - Loops in C++ : For,While, Do - Functions in C++ - Inline functions – Function Overloading.

UNIT-II : Classes and Objects : Declaring Objects – Defining Member Functions – Static Member variables and functions – array of objects –friend functions – Overloading member functions – Bit fields and classes – Constructor and destructor with static members.

UNIT-III

UNIT-IV:
Pointers – Declaration – Pointer to Class , Object – this pointer – Pointers to derived classes and Base classes – Arrays – Characteristics – array of classes – Memory models – new and delete operators – dynamic object – Binding , Polymorphism and Virtual Functions.

UNIT-V:

TEXT BOOKS :

REFERENCE BOOKS:
CORE LAB - 4 : PROGRAMMING LAB  

1. Write a C++ Program to create a class to implement the Data Structure STACK. Write a constructor to initialize the TOP of the STACK. Write a member function PUSH() to insert an element and member function POP() to delete an element check for overflow and underflow conditions..

2. Write a C++ Program to create a class ARITHMETIC which consists of a FLOAT and an INTEGER variable. Write a Member function ADD(), SUB(), MUL(), DIV() to perform addition, subtraction, multiplication, division respectively. Write a member function to get and display values.

3. Write a C++ Program to read an integer number and find the sum of all the digits until it reduces to a single digit using constructors, destructors and inline member functions.

4. Write a C++ Program to create a class FLOAT that contains one float data member. Overload all the four Arithmetic operators so that they operate on the object FLOAT.

5. Write a C++ Program to create a class STRING. Write a Member Function to initialize, get and display strings. Overload the Operator “+” to Concatenate two Strings, “==” to Compare two strings.

6. Write a C++ Program to create class, which consists of EMPLOYEE Detail like E_Number, E_Name, Department, Basic, Salary, Grade. Write a member function to get and display them. Derive a class PAY from the above class and write a member function to calculate DA, HRA and PF depending on the grade.

7. Write a C++ Program to create a class SHAPE which consists of two VIRTUAL FUNCTIONS Calculate_Area() and Calculate_Perimeter() to calculate area and perimeter of various figures. Derive three classes SQUARE, RECTANGLE, TRIANGLE from class Shape and Calculate Area and Perimeter of each class separately and display the result.

8. Write a C++ Program to create two classes each class consists of two private variables, a integer and a float variable. Write member functions to get and display them. Write a FRIEND Function common to both classes, which takes the object of above two classes as arguments and the integer and float values of both objects separately and display the result.
9. Write a C++ Program using Function Overloading to read two Matrices of different Data Types such as integers and floating point numbers. Find out the sum of the above two matrices separately and display the sum of these arrays individually.

10. Write a C++ Program to check whether the given string is a palindrome or not using Pointers.
11. Write a C++ Program to create a File and to display the contents of that file with line numbers.
12. Write a C++ Program to merge two files into a single file.

**CORE-6: SYSTEM SOFTWARE AND OPERATING SYSTEM**

Subject Description: It deals Fundamentals of System Software and Resources of Operating System.

Goal: Knowledge on various System Software and Operating System concepts.

Objective: Enable the student to get sufficient knowledge on various system resources.

UNIT- I: Introduction –System Software and machine architecture-Assemblers-Basic assembler functions - Machine dependent features-program relocation-Machine independent features – literals - symbol defining statements-expressions-program blocks-control sections and program linking - Assembler design options-one pass assemblers-
multi pass assemblers.


UNIT- II: Macroprocessor: Basic macroprocessor functions - Machine independent macroprocessor features - concatenation of macro parameter macro processor design options-recursive macro expansion - general purpose macro processor - macro processing within language translators. Text Editors: Overview of editing process - user interface - editor structure.


TEXT BOOK:

REFERENCE BOOKS :

CORE-7 : JAVA PROGRAMMING

Subject Description: This subject deals with Java Programming concepts.

Goal: Enable to create wide range of Applications and Applets using Java.

Objective: To inculcate knowledge on Java Programming concepts.


TEXTBOOKS:
1. PROGRAMMING WITH JAVA – A PRIMER - E. Balagurusamy, 3rd Edition, TMH.

REFERENCE BOOKS:
1. THE COMPLETE REFERENCE JAVA 2 - Patrick Naughton & Hebert Schildt, 3rd ed, TMH
2. PROGRAMMING WITH JAVA – John R. Hubbard, 2nd Edition, TMH.

CORE LAB-5 : PROGRAMMING LAB - JAVA

1. Write a Java Applications to extract a portion of a character string and print the extracted string.

2. Write a Java Program to implement the concept of multiple inheritance using Interfaces.

3. Write a Java Program to create an Exception called payout-of-bounds and throw the exception.

4. Write a Java Program to implement the concept of multithreading with the use of any three multiplication tables and assign three different priorities to them.

5. Write a Java Program to draw several shapes in the created windows.

6. Write a Java Program to create a frame with four text fields name, street, city and pin code with suitable tables. Also add a button called “my details”, When the button is clicked its corresponding values are to be appeared in the text fields.

7. Write a Java Program to demonstrate the Multiple Selection List-box.

8. Write a Java Program to create a frame with three text fields for name, age and qualification and a text field for multiple line for address

9. Write a Java Program to create Menu Bars and pull down menus.
10. Write a Java Program to create frames which respond to the mouse clicks. For each event with mouse such as mouse up, mouse down, etc., the corresponding message to be displayed.

11. Write a Java Program to draw circle, square, ellipse and rectangle at the mouse click positions.

12. Write a Java Program which open an existing file and append text to that file.

**CORE-8: RDBMS & ORACLE**

Subject Description: This subject deals with RDBMS concepts using Oracle SQL and PL/SQL.

Goal: Knowledge on Oracle Programming techniques.

Objective: To inculcate knowledge on RDBMS concepts and Programming with Oracle.


TEXTBOOKS:

1. DATABASE SYSTEMS USING ORACLE – Nilesh Shah, 2nd edition, PHI.

(UNIT-I: Chapters 1 & 2 UNIT-II: Chapters 3 & 4 UNIT III: Chapters 5 & 6
UNIT-IV: Chapters 10 & 11 UNIT-V: Chapters 12, 13 & 14)

REFERENCE BOOKS:

1. DATABASE MANAGEMENT SYSTEMS – Arun Majumdar & Pritimoy Bhattacharya, 2007, TMH.

2. DATABASE MANAGEMENT SYSTEMS – Gerald V. Post, 3rd edition, TMH.

Core 9: VISUAL PROGRAMMING - VISUAL BASIC & VISUAL C++

UNIT-I:


UNIT-III:


Data Files: Sequential Data Files – Random-Access Data files – Binary files.

UNIT IV:
Visual C++: Programming: MFC and Windows – MFC Fundamentals – MFS Class Hierarchy – MFC Member & Global Functions – Various Object Properties – Object,
CArchive, CWinApp, CWnd, CFile, CGD, Object, CExcept, CDialog, CString, CEdit, CList


UNIT V

TEXTBOOKS:
1. VISUAL BASIC – Byron S. Gottfried, Schaum’s Outline series, TMH.
2. Eric A Smith, Valor Whisher, Hank Marquis, “Visual Basic 6 Programming Bible”.

REFERENCE BOOKS
1. MSDN Visual studio Library.
3. Mveller, “Visual C++ from the Ground up”, TMCH.

CORE Lab 6 - Visual Programming : VB , VC++ & ORACLE

( One Program either from VB or VC++ and one from ORACLE)

VISUAL BASIC
1. Write a simple VB program to accept a number as input and convert them into
   a. Binary
   b. Octal
   c. Hexa-decimal
2. Write a simple VB program to add the items to list box with user input and move the
   selected item to combo box one by one.
3. Write a simple VB program to develop a calculator with basic operation.
4. Design an form using common dialog control to display the font, save and open dialog
   box without using the action control property.
5. Write a simple program to prepare a Questionnaire.
6. Write a VB Program to develop a menu driven program
   Add a MDI window in the form and arrange them in the cascading/horizontal style using
   menus (Create a menu to add form, arrange) (Menu Item 1).
   Also change the form color using the menu in another menu item (Menu Item 2).

VISUAL C++
1. Write a VC++ Program to display Toolbar and Status bar
2. Write a VC++ Program to add, delete string in a list box
3. Write a VC++ Program to perform menu Editor
4. Write a VC++ Program to perform Free Hand Drawing
5. Write a VC++ Program to perform serialization-SDI
6. Write a VC++ Program to perform serialization-MDI
ORACLE

Data Definition Basics
1. Create the following table (PK - Primary Key, FK – Foreign Key) cat_head, route_head, place_head, route_detail, ticket_detail, ticket_head with the mapping given below:
   - cat_head route_head
     - (cat_code PK) (cat_code FK)
   - route_head route_detail
     - (route_id PK) (route_id FK)
   - ticket_head ticket_detail
     - (tick_no PK) (tick_no FK)
   - place_head route_detail
     - (place_id PK) (place_id FK)

   (i) Alter the table ticket_header to add a check constraint on ticket_no to accept values between 1 and 500
   (ii) Alter table route_header to add a column with data type as long.

Data Manipulation Basics
2. (a) Insert values to above tables
   (b) Display only those routes that originate in madras and terminate at cochin
   (c) Display only distinct category code from the table route_header in descending manner.
   (d) Update the table route_header to set the distance between madras and coimbatore as 500

Queries
3. a. Select rows from ticket_details such that ticket number greater than any ticket_number in Ticket_header.
   B. Select rows from route_header such that the route_id are greater than all route_id in route_detail
      Where place id is “100”.
   C. Create view tick from ticket_header with Ticket_no, Origin, Destination, route_id

Report
4. Generate a report from the table ticket_detail for the particular ticket_no

PL/SQL
5. a. Write a PL/SQL block to update the bus_station to be “ERODE” where place_id is ’01’ or ‘05’ [place_header]
   b. Write a PL/SQL block to satisfy the following condition by accepting the route_id as user input. If the distance is less than 500 then update the fare to be 200
   c. Write a Database trigger before insert for each row on the table route_detail not allowing transaction on Saturday / Sunday
   d. Write a Database trigger before delete for each row not allowing deletion and give the appropriate message on the table route_details

PROJECT
6. Develop a Simple Project for Student Database Management System using VB as front end and ORACLE as back end.
CORE-11: GRAPHICS & MULTIMEDIA

Subject Description: This subject deals with Graphics Concepts and Multimedia methodologies.


Objective: To inculcate knowledge on Graphics & Multimedia concepts.

(GRAPHICS – UNITS I & II)


(MULTIMEDIA – UNITS III, IV & V)


TEXTBOOKS:

1. COMPUTER GRAPHICS – Donald Hearn, M.Pauline Baker, 2nd edition, PHI.  
   (UNIT-I: 3.1-3.6,4.1-4.5 & UNIT-II: 5.1-5.4,6.1-6.5)

2. PRINCIPLES OF MULTIMEDIA – Ranjan Parekh, 2007, TMH.  
   UNIT-V: 9.5-9.10,9.13,9.15,10.10-10.13)
REFERENCE BOOKS:
1. COMPUTER GRAPHICS – Amarendra N Sinha, Arun D Udal, TMH.
2. MULTIMEDIA: Making it Work – Tay Vaughan, 7th edition, TMH.

CORE LAB-7: PROGRAMMING LAB - GRAPHICS and MULTIMEDIA

Multimedia:
1. Create Sun Flower using Photoshop.
2. Animate Plane Flying in the Clouds using Photoshop.
4. Create See-through text using Photoshop.
5. Create a Web Page using Photoshop.
6. Convert Black and White Photo to Color Photo using Photoshop.

Graphics:
1. write a program to rotate an image.
2. write a program to drop each word of a sentence one by one from the top.
3. write a program to drop a line using DDA Algorithm.
4. write a program to move a car with sound effect.
5. write a program to bounce a ball an move it with sound effect.
6. write a program to test whether a given pixel is inside or outside or on a polygon.
BHARATHIAR UNIVERSITY: COIMBATORE-641 046

B.Sc. CS/IT/CT/SS/MM/CSA & B.C.A

(For the students admitted from the academic year 2011-2012 and onwards)

CBCS PATTERN

ALLIED SUBJECTS

<table>
<thead>
<tr>
<th>Course</th>
<th>BSc CS, IT, CT, SS, CSA, MM &amp; B.C.A (Regular)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective from</td>
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<tr>
<td>Semester</td>
<td>I</td>
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<tr>
<td>Subject</td>
<td>Allied 1: MATHEMATICAL STRUCTURES FOR COMPUTER SCIENCE</td>
</tr>
</tbody>
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**Subject Description:** This subject deals with mathematical concepts like Matrices, Numerical analysis and Statistical methods for computer science and applications.

**Goal:** To learn about the mathematical structures for computer based applications

**Objective:** On successful completion of this subject the students should have:
- Understanding the concepts of mathematics
- Learning applications of statistical and numerical methods for Computer Science.


**UNIT – IV:** Measures of central tendency – Mean Median and Mode – Relationship among mean media and mode. Measures of dispersion – Range, quartile deviation, mean deviation and Standard deviation

**UNIT – V:** Regression and Correlation – Types of relationship – Linear regression – Correlation – Coefficient of correlation – Regression equation of variables – Discrete Probability distribution – Uniform, Binomial & poision Distribution

**TEXT BOOKS:**
3. Business Statistics - S.P. Gupta & M.P. Gupta Sultan Chand and Sons (Unit IV & V)

**REFERENCE BOOKS:**
1. Numerical methods – E. Balagurusamy Tata MC graw Hill.
2. Fundamental of Mathematical statistics S C Gupta, V. K. Kapoor Sultan Chand and Sons

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<tr>
<td>Semester</td>
<td>II</td>
</tr>
<tr>
<td>Subject</td>
<td>ALLIED 2: DISCRETE MATHEMATICS</td>
</tr>
</tbody>
</table>

**Subject Description:** This subject deals with discrete structures like set theory, mathematical logic, relations, languages, graphs and trees.

**Goal:** To learn about the discrete structures for computer based applications.

**Objective:** On successful completion of this subject the students should have:
- Understanding the concepts of discrete mathematics
- Learning applications of discrete structures in Computer Science.

**UNIT – I:** Set theory-Introduction-Set & its Elements-Set Description-Types of sets-Venn-Euler Diagrams- Set operations & Laws of set theory-Fundamental products-partitions of sets-minsets- Algebra of sets and Duality-Inclusion and Exclusion principle

**UNIT – II:** Mathematical logic – Introduction- prepositional calculus –Basic logical operations- Tautologies-Contradiction-Argument-Method of proof- Predicate calculus.

**UNIT – III:** Relations – Binary Relations – Set operation on relations-Types of Relations – Partial order relation – Equivalence relation – Composition of relations – Functions – Types of functions – Invertible functions – Composition of functions.

**UNIT – IV:** Languages – Operations on languages – Regular Expressions and regular languages – Grammar – Types of grammars – Finite state machine – Finite – State automata


**TEXT BOOKS:**

**REFERENCE BOOKS:**
ALLIED-3 – CS/BCA : COMPUTER BASED OPTIMIZATION TECHNIQUES

**Subject Description:** This subject deals various optimization techniques for linear programming, Transportation, Assignment Problems, Game theory, PERT and CPM.

**Goal:** To learn about the managerial concepts like decision making, optimization, etc.

**Objective:** On successful completion of this subject the students should have:

- Understanding various mathematical applications in industries.
- Decision making for real time environment.

**UNIT-I:** Linear Programming - Mathematical Model assumption of linear Programming – Graphical method - Principles of Simplex method, Big-M Method, Duality, Dual simplex method.

**UNIT-II:** Transportation and assignment problem - Integer Programming Branch and Round Techniques - Assignment and Traveling Salesman Problem.

**UNIT-III:** Game Theory - Concept of Pure and Mixed Strategies – Solving 2 x 2 matrix with and without saddle point - n x 2 - 2 x m games. Replacement models - Elementary replacement models - present value - rate of return - depreciation - Individual replacement – Group replacement.

**UNIT-IV:** (Derivations not included) Queuing Theory - definition of waiting line model - Queue discipline - traffic intensity - poison arrival – Birth death process - Problem from single server: finite and infinite population model – Problems from multi server: finite and infinite population model.

**UNIT-V:** PERT & CPM - Network representation - backward pass - Forward pass - computation - Pert Network - Probability factor – updating and Crashing.

**TEXT BOOKS**

**REFERENCE BOOKS**
2. **PROBLEMS IN OPERATIONS RESEARCH** – P.K. Gupta, D.S. Hira, S. Chand Pub
ALLIED – 4 : CS/BCA : BUSINESS ACCOUNTING

Goal: To enable the students to learn principles and concepts of Accountancy.

Objective: On successful completion of this course, the student should have understood

- Concepts and conventions of Accounting.
- Basic Accounting framework

UNIT – I

UNIT – II
Final accounts of a sole trader with adjustments – Errors and rectification

UNIT – III
Bill of exchange- Accommodation bills – Average due date – Account current.

UNIT – IV
Accounting for consignments and Joint ventures

UNIT – V
Bank Reconciliation statement – Receipts and Payments and income and expenditure account and Balance sheet – Accounts of professionals.

Note: Distribution of Marks between problems and theory shall be 80% and 20%.

BOOKS FOR REFERENCE
2. T.S.Grewal – Introduction to Accountancy- S.Chand & Company Ltd.,
### Allied Paper 3 – IT/CT: MICROPROCESSOR AND ALP

#### UNIT I

Intel 8086 – Pin Description of Intel 8086 – Operating modes of 8086 – Register organization of 8086 – BIU and EU – Interrupts – 8086 based computer system – Addressing Modes of 8086

#### UNIT II
8086 Instruction Set – Instruction Groups – Addressing Mode Byte – Segment Register Selection – Segment Override – 8086 Instructions Assembly Language Programs for 8086: Largest Number, Smallest Number in a Data Array – Numbers in Ascending and Descending order – Block Move or Relocation – Block Move using REP instruction – Sum of a series – Multibyte Addition

#### UNIT III

#### UNIT IV

#### UNIT V
MOTOROLA 68000, MOTOROLA 68020, MOTOROLA 68030, MOTOROLA 68040
Interfacing of A/D Converter and Applications: Introduction – Interfacing of ADC 0808 or ADC 0809 to Intel 8086 – Bipolar to Unipolar Converter – Sample and Hold Circuit, LF 398 – Microprocessor-based Measurement and Control of Physical Quantities

### Text Book(s)

### Ref. Book(s)
## Allied /Elective : IT/CT: EMBEDDED SYSTEMS

| UNIT V | Inter-process communication and synchronization of processes, tasks and threads: Multiple processor – Problem of sharing data by multiple tasks and routines – Inter process communication. Real time operating systems: Operating system services – I/O subsystem – Network operating systems – Real time and embedded operating systems – Interrupt routine in RTOS environment – RTOS task scheduling – Performance metric in scheduling |

### Text Book(s)

ALLIED -4 BSc CT : TCP/IP Protocol

Unit I

Unit II

Unit III
IP addresses – classless addressing: Variable length blocks – subnetting – address allocation.

Unit IV

Unit V
Domain name systems: Name space – domain Name space – distribution of name space – DNS in the internet – resolution.

TEXT BOOK :

Reference Books :

Allied 3 - SS : Database Systems

Unit I

Unit II

Unit III
File and system structure – overall system structure – file Organization – data dictionary – Indexing and hashing – basic concept B and B+ tree indices – Static and Dynamic hash functions.

Unit IV

Unit V

Text Book(s):

Allied 4 :BSc SS - PRINCIPLES OF PROGRAMMING LANGUAGES

UNIT - I

UNIT - II
Modeling Language Prperties: Formal Properties of Languages- Language Semantics- Elementary data Types: Properties of Types and Object-Scalar Data Types - Composite Data Types

UNIT - III
Encapsulation: Structure data types - Abstract data types - Encapsulation by sub programs Type Definitions Inheritance: - Polymorphisms

UNIT - IV
Functional Programming: Programs as Functions- Functional Programming in an Imperative Language - LISP - Functional Programming with static typing - delayed evaluation- Mathematical functional programming- recursive functions and lambda
calculus - Logic programming : Logic and Logic Programs - Horn Clauses - Prolog - Problems with logic programming

UNIT - V
Formal Semantics: Sample small language - operational Semantics - Denotation Semantics - Axiomatic Semantics - Program correctness - Parallel Programming: Parallel Processing and programming languages - threads - Semaphore - monitors-message passing - parallelism Non Imperative Languages

TEXT BOOKS :

UNIT - IV :
REFERENCE BOOKS

Allied/Elective : BSc MM/BCA: WEB SERVICES

Subject Description
This Course presents the Web Services Provided.

Goal : To enable the students to learn what is web service and Protocols used for Web services

Objective
On successful completion of the course the students should have:

- Understood how to build the real world applications using Web Services.

Contents

Unit I Introduction to Web Services – Industry standards, Technologies and Concepts underlying Web Services – their support to Web Services, Applications that consume Web Services.

Unit II

Unit III
A brief outline of Web Services – Conversation – static and interactive aspects of system interface and its implementation, Work Flow – Orchestration and refinement, Transactions, Security issues – the Common attacks – security attacks facilitated within Web services Quality of Services – Architecting of systems to meet users requirement with respect to latency, performance, reliability, QOS metrics, Mobile and wireless Services – energy consumption, network bandwidth utilization, Portals and Services Management.
Unit – IV

Building real world Enterprise applications using Web Services – sample source codes to develop Web Services – Steps necessary to build and deploy Web Services and Client applications to meet Customer’s requirement – Easier development, Customisation, maintenance, Transactional requirements, seamless porting to multiple devices and platforms.

Unit – V

Development of Web Services and applications onto Tomcat application Server and Axis SOAP server (both are freewares) – Web Services Platform as a set of Enabling technologies for XML based distributed Computing.

TEXT BOOKS :

REFERENCE BOOKS :

ALLIED/ELECTIVE: DIGITAL IMAGE PROCESSING

UNIT-1 Digital Image Fundamentals

UNIT-2 Image Enhancement

UNIT-3 Image Compression and Segmentation
UNIT-4 Feature Extraction

Image feature descriptions-Interpretations of Line drawings, Image pattern recognition algorithms.

UNIT-5 Knowledge Representation and Use

Knowledge Representation and Use-Image analysis using Knowledge about scenes-Image Understanding using two dimensional methods.

TEXT BOOK:


REFERENCES:


ALLIED/ELECTIVE: MANAGEMENT INFORMATION SYSTEM

Subject Description : This Subject deals with the MIS

Goal : To learn about MIS

Objective : On Successful Completion of this subject the students should have:

- Management Role, Control, Process , DSS , BPR, Etc.,

UNIT I:


UNIT II:


UNIT III:


UNIT IV:

UNIT V:

TEXT BOOK:

REFERENCE BOOK:

ALLIED/ELECTIVE : ORGANIZATIONAL BEHAVIOR

Unit I

Unit II
Individual Behavior – Perception – Process – Changes - Personality and Attitudes – Job Satisfaction

Unit III

Unit IV

Unit V
Communication – Role and background – Interpersonal communication – Informal communication- The Decision Making process – Participative Decision making techniques – Organization design – culture – Organization change and development

Text Book:
BHARATHIAR UNIVERSITY: COIMBATORE-641 046

B.Sc. CS/IT/CT/SS/MM/CSA & BCA

(For the students admitted from the academic year 2011-2012 and onwards)

CBCS PATTERN

ELECTIVE SUBJECTS

ELECTIVE:- E-LEARNING

UNIT-I


UNIT-II


UNIT-III


UNIT-IV


UNIT-V

Video: Integrating and Importing Video – Editing video with Adobe Premiere – Organizing & Editing clips – Adding Transition between clips – Adding special effects to video.

TEXT BOOKS


REFERENCES

ELECTIVE: COMPUTER NETWORKS

Subject Description: This subject deals different Network concepts like Layers, Wireless Concepts, Transmission and Security.

Goal: Knowledge on Computer Networks and technologies like broadband and Bluetooth.

Objective: To inculcate knowledge on Networking concepts and technologies like wireless, broadband and Bluetooth.


TEXTBOOKS:
1. COMPUTER NETWORKS – Andrew S. Tanenbaum, 4th edition, PHI. (UNIT-I: 1.2-1.4 UNIT-II: 2.2-2.4 UNIT-III: 4.2-4.6 UNIT-IV: 5.2, 5.3, 6.2, 6.5 UNIT-V: 7.1, 7.2, 8.1-8.4)

REFERENCE BOOKS:
1. DATA COMMUNICATION AND NETWORKS – Achyut Godbole, 2007, TMH.
2. COMPUTER NETWORKS Protocols, Standards, and Interfaces – Uyless Black, 2nd ed, PHI.
ELECTIVE : NETWORK SECURITY & CRYPTOGRAPHY

Subject Description: deals with principles of encryption algorithms, and conventional and public key cryptography.

Goal: enable to know the levels of network security and security tools.

Objective: to impart knowledge regarding cryptography and network security.

UNIT-I:


UNIT-II:

Triple des-blow fish – RCS Advanced Symmetric Block Ciphers –RC4 stream Cipher confidentially using symmetric encryption – introduction to number theory – public key cryptography and RSA.

UNIT-III:


UNIT-IV:


UNIT-V

Intruders – intrusion detection – password management – viruses and related threats – virus countermeasures – fire wall design principles – trusted systems

TEXTBOOK:


Fourth edition, phi Education Asia.

REFERENCE BOOKS:

1) Atul kahate “Cryptography and Network Security” second edition. TMH.
2) Behrouz A.forouzan” Cryptography and Network Security “ TMH.
ELECTIVE : ARTIFICIAL INTELLIGENCE AND EXPERT SYSTEMS

Subject Description: This subject deals with various AI Concepts and Methodologies.

Goal: To Acquire Knowledge on various AI Techniques and Expert Systems.

Objective: To have enriched knowledge regarding heuristic search, Knowledge representation and Expert systems


UNIT II: Heuristic Search techniques: Generate and Test – Hill Climbing – Best-Fist, Problem Reduction, Constraint Satisfaction, Means-end analysis.

UNIT III: Knowledge representation issues: Representations and mappings – Approaches to Knowledge representations – Issues in Knowledge representations – Frame Problem.


UNIT V: Representing knowledge using rules: Procedural Vs Declarative knowledge – Logic programming – Forward Vs Backward reasoning – Matching – Control knowledge


Text Book:


Reference Book:


ELECTIVE: WEB TECHNOLOGY

Subject Description: This subject deals TCP/IP, FTP, WWW and Web technologies like ASP, JVM, DCOM, XML and WAP.

Goal: Knowledge on various Web technologies.

Objective: To inculcate knowledge of various Web technologies and functioning internet.


TEXTBOOKS:

1. WEB TECHNOLOGIES TCP/IP to Internet Applications Architectures – Achyut S Godbole & Atul Kahate, 2007 ,TMH.


REFERENCE BOOKS:

1. INTERNET AND WEB TECHNOLOGIES – Rajkamal, TMH.

2. TCP/IP PROTOCOL SUITE – Behrouz A. Forouzan, 3rd edition, TMH.
**ELECTIVE : DATA MINING**

**Subject Description:** This Subject deals with the Data Mining

**Goal:** To learn about Data Mining

**Objective:** On Successful Completion of this subject the students should have knowledge on Data mining Concepts

**UNIT I:**
Basic Data Mining Tasks – Data Mining Versus Knowledge Discovery in Data Bases – Data Mining Issues – Data Mining Matrices – Social Implications of Data Mining – Data Mining from Data Base Perspective.

**UNIT II :**

**UNIT III :**

**UNIT IV:**

**UNIT V:**

**TEXT BOOK :**

**REFERENCE BOOK :**
Jiawei Han & Micheline Kamber – “Data Mining Concepts & Techniques“ 2001 Academic Press.

**ELECTIVE : OPEN SOURCE SOFTWARE**

Unit 1

Unit II

Unit III

Unit IV

Unit V

Text books:

Reference Books:
1. Programming PHP by Rasmus Lerdorf and Levin Tatroe –O’Reilly 2002
2. Core Python Programming Wesley J. Chun Prentice Hall 2001

ELECTIVE : MASTERING LAN AND TROUBLESHOOTING

Subject Description This Course presents the details of Local Area Networks.

Goals To enable the students to learn about the internal organization of a PC
Objective

On successful completion of the course the students should have:

- Understood types of faults and how to solve the problems

Contents

UNIT I  PC- Hardware overview
Introduction to computer organization-Memory-PC family-PC hardware-interconnections between Boxes-Inside the boxes:-motherboard, daughter boards, floppy disk drive, HDD, speaker, mode switch, front panel indicators & Control-mother board logic-memory space-I/O port address-wait state-interrupts -I/O data transfer-DMA channels-POST sequence.

UNIT II  PERIPHERAL DEVICES

Display Adapter:-CRT display- CRT controller principle -CRT controller 6845 Printer controller:-Centronics interface-programming sequence -Hardware overview-printer-sub assemblers.

UNIT III  MOTHERBOARD CIRCUITS
Mother board functions-functional units and inter communications:-Reset logic -CPU nucleus logic-DMA logic-Wait state logic-NM logic-speaker logic-keyboard interface-SMPS.

UNIT IV  INSTALLATION AND MAINTENANCE
Introduction-pre installation planning -installation practice-routine checks-special configuration memory up gradation - HD up gradation - DOS command(Internal and external).Preventive maintenance-system usage.

UNIT V  TROUBLE SHOOTING

REFERENCE BOOKS:

4. Ray Duncan - "Dos Programming”.
ELECTIVE : MULTIMEDIA SYSTEMS

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIT IV</td>
<td>Networking System: Layers, Protocols and Services, Networks, Metropolitan Area Networks, WAN, Multimedia Communication System</td>
</tr>
</tbody>
</table>


ELECTIVE – ANIMATION TECHNIQUES


TEXT BOOK:

1. PRINCIPLES OF MULTIMEDIA – Ranjan Parekh, 2007, TMH. (Unit I, Unit V)

Text for Unit III, IV & V is appended.

ELECTIVE : BUSINESS INTELLIGENCE

Unit I
Introduction to business intelligence and business decisions – Data warehouses and its role in Business Intelligence – Creating a corporate data warehouse – Data Warehousing architecture – OLAP vs. OLTP - ETL process – Tools for Data Warehousing – Data Mining – KDD Process

Unit II
Applications of Data Mining in Business – Data Mining Techniques for CRM – Text Mining in BI - Web Mining – Mining e-commerce data – Enterprise Information Management - Executive Information Systems

Unit III

Unit IV

Unit V
Web Analytics and Business Intelligence – eCRM - Case Study: Web Trends – Boeing – EverBank – China Eastern

Text Book(s)
2. Introduction to Data Mining and its Applications, Sumathy, Sivanandam, Springer Verlag, 2006
### ELECTIVE – : NETWORK SECURITY & ADMINISTRATION

<table>
<thead>
<tr>
<th>UNIT</th>
<th>Topic</th>
</tr>
</thead>
</table>

**ELECTIVE: MOBILE COMPUTING**

<table>
<thead>
<tr>
<th>UNIT</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIT II</td>
<td>MOBILE COMPUTING THROUGH TELEPHONY: Evaluation of telephony – Multiple access procedures – Mobile computing through telephone – IVR Application – Voice XML – TAPI</td>
</tr>
</tbody>
</table>
| UNIT V  | CDMA and 3G: Spread spectrum technology – Is 95 – CDMA vs GSM – Wireless Data – Third generation networks – Applications on 3G  

**Text Book(s)** MOBILE COMPUTING, Asoke K Talukder, Roopa R Yavagal, TMH, 2005
ELECTIVE/SKILL : INTERNET PROGRAMMING

UNIT I

UNIT II
Introduction to HTML - Tags and Documents - Link documents using Anchor Tags - Images and Pictures - Tables -HTML Forms - Frames - Framesets.

UNIT III

UNIT IV
Introduction to XML - Well formed XML - CSS - XSL - Valid XML - DTD - XSD - Introduction to DOM and SAX.

UNIT V
Introduction to Dynamic web applications - Active Server Page Basics - ASP Object Model -Collections - Introduction to PHP.

Text Book(s)

Reference Book(s)
2. Thomas Penny, How to do everything with HTML.

ELECTIVE : COMPONENT TECHNOLOGY

SUBJECT DESCRIPTION : This course presents the middle ware technologies that are available and explaining how this can be used for real time applications.

GOALS : To enable the students to learn the basic functions and concepts of COM, DCOM and CORBA.

OBJECTIVES :

On successful completion of the course the students should have

Understood the facilities available in component technology

Learnt how this can be used for real time application.

UNIT I
Information system - Analyzing the Scenario challenges - CORBA overview -

UNIT II
Language mapping - Portability and inter operability - OLE integration - CCRBA services - Information Management Services - Task Management- System Management - Infrastructure of Services.

UNIT III
Facilities and domains - horizontal - Vertical facilities - Leveraging the OMG Process - Relationship with other technologies.

UNIT IV
The CORBA migration process - software Architecture - Applications Design using software Architect ii

UNIT V
Migration case studies - Problem and Objective standard based Profile - Project context - Business objects and Process - Interface migration.

REFERENCE BOOK:

ELECTIVE :RECENT TRENDS IN ENTERPRISE INFORMATION TECHNOLOGY

Unit I

Unit II

Unit III

Unit IV
Unit V

Books for Study:


ELECTIVE: DISTRIBUTED COMPUTING

Subject Description
This Course presents the distributed computing techniques emphasizing the client server model.

Goals
To enable the students to learn the concepts of distributed computing

Objectives
On successful completion of the course the students should have:

- Understood the trends and principles of distributed computing

Contents
UNIT I
Distributed Systems: Fully Distributed Processing systems – Networks and interconnection structures – designing a distributed processing system.

UNIT II
Distributed systems: Pros and Cons of distributed processing – Distributed databases – the challenges of distributed data – loading, factors – managing the distributed resources division of responsibilities.

UNIT III
Design considerations: Communication Line loading – line loading calculations-partitioning and allocation - data flow systems – dimensional analysis- network database design considerations- ration analysis- database decision trees- synchronization of network databases
UNIT IV
Client server network model: Concept – file server – printer server and e-mail server

UNIT V
Distributed databases: An overview, distributed databases- principles of distributed databases – levels of transparency- distributed database design- the R* project techniques problem of heterogeneous distributed databases

Reference:
1. John a. Sharp, “An introduction to distributed and parallel processing g” Blackwell Scientific Publication(Unit I & III)
2. Uyless D. Black, “Data communication and distributed networks”(unit II)
3. Joel M.Crichllow “introduction to distributed & parallel computing (Unit IV)

ELECTIVE : Middleware Technologies

Unit I

Unit II

Unit III

Unit IV

Unit V

Text Book(s)
ELECTIVE: COMPUTER INSTALLATION AND SERVICING

Unit – I  PC SYSTEM

Personal Computer System - Functional Blocks - System Unit - Display Unit - Keyboard.

INSIDE PC

Motherboard - BIOS - CMOS-RAM - Motherboard types – Processors – Chipsets – USB.

ON-BOARD MEMORY

PC’s Memory Organization - Memory packaging - I/O Ports - USB Port.

Unit – II

Floppy Disk Drive and Controller - Hard Disk Drive and Controller, MMX – Multimedia Extensions.

Unit – III

Input Devices - Monitors and Display Adapters.

Unit – IV Output Devices

DOT Matrix Printer - Printer Controller - Laser Printer - Inkjet Printer.

Computer Installation

Power supply - PC Installation.

Unit – V

Trouble shooting and servicing

POST, Trouble shooting the mother board - Trouble shooting the Keyboard - Trouble shooting the disk devices - Trouble shooting the printer.

Maintenance

Diagnostic Software’s - Data Security.

Computers and Communication

Networking – Modem - Internet.

Text Book:

ELECTIVE: COMPUTER AIDED DESIGN AND MANUFACTURING

UNIT – I:

**Introduction:** CAD/ CAM Defined – The Product Cycle and CAD/CAM – Automation and CAD/CAM – Organization.


UNIT – II:


**Conventional Numerical Control:** Introduction – Basic Components of an NC System – The NC Procedure – NC Coordinate System – NC Motion Control Systems – Applications of Numerical Control – Economics of Numerical Control.

UNIT – III:


**Robot Applications:** General Considerations in Robot Applications – Material Transfer – Machine Loading - Welding - Spray Coating - Processing Operations - Assembly - Inspection.

UNIT – IV:


UNIT – V:

**Production Planning and Control:** Introduction – Traditional Production Planning and Control – Problems with Traditional Production Planning and Control – Computer-Integrated Production Management System – Cost Planning and Control.

Text Books:


ELECTIVE I : E-COMMERCE

Subject Description : This Subject deals with the E-Commerce

Goal : To learn about E-Commerce

Objective : On Successful Completion of this subject the students should have:

- E-Commerce , E-Market , EDI , Business Strategies etc.,

UNIT I:


UNIT II:


UNIT III:


UNIT IV:


UNIT V:


TEXT BOOK :

REFERENCE BOOK:
Jeffrey F. Rayport, Bernard J. Jaworski – “Introduction to E-Commerce” – 2ND EDITION
TMH.

ELECTIVE - DESIGN & ANALYSIS OF ALGORITHM

UNIT 1:
Algorithms – Conventions – writing structured programs – Analyzing algorithms –
Sorting: Heap sort – Binary Search- Finding the maximum and minimum – merge sort –
quick sort – Selection sort.

UNIT 2:
GREEDY METHOD: The general method – optional storage on tapes – Knap sack
problems – Job sequencing with dead lines – optional merge patterns – minimum
spanning trees – single source shortest paths.

UNIT 3:
DYNAMIC PROGRAMMING: The general method – Multistage graphs – All pairs
shortest paths – optional binary search trees – O/I Knapsack – Reliability design the
traveling salesman problem- game theory.

UNIT 4:
BACKTRACKING: The general method – The 8 queens problem – sum of subsets –
graph coloring – Hamiltonian cycles – knapsack problem.

UNIT 5:
BRANCH & BOUND: The general method – O/I knapsack problem – Traveling
salesperson – Efficiency considerations.

TEXT BOOK:
Fundamentals of Computer Algorithms – Ellis Horowitz and Sartaj Sahni Galgotia
Publications. (Chapters 1 to 5,6,4,7 & 8)
*****************
ELECTIVE : SOFTWARE QUALITY ASSURANCE

Subject Description

This Course presents the essentials of Software Quality, Plan for SQA, Standards, Tools for SQA.

Goals:

To enable the students to learn the Concepts and Principles of SQA.

Objectives:

On successful completion of the course the students should have:

- Understood the principles of SQA
- Must be able to judge the quality of Softwares.

Content

UNIT I
Introduction to software quality – Software modeling – Scope of the software quality program – Establishing quality goals – Purpose, quality of goals – SQA planning software – Productivity and documentation.

UNIT II

UNIT III

UNIT IV
Tools, Techniques and methodologies, Code control, Media control, Supplier control, Records collection, Maintenance and retention, Training and risk management.

UNIT V
ISO 9000 model, cmm model, Comparisons, ISO 9000 weaknesses, cmm weaknesses, SPICE – Software process improvement and capability determination.

REFERENCES
ELECTIVE : WIRELESS MOBILE COMMUNICATIONS

Subject Description - This Course presents the Wireless Mobile Communications.

Goals - To enable the students to learn the fundamentals of Wireless Transmission.

Objective

On successful completion of the course the students should have:

- Understood the wireless communication principles, wireless networking and wireless standards.

Contents

UNIT I


UNIT II


Tele Communication Systems : GSM - DECT - TETRA – UTMS-PACS - Personal Handy Phone System ( PHS ) - Pacific Digital Cellular ( PDC ) and IMT 2000.

UNIT III


UNIT IV


UNIT V


REFERENCE BOOKS :


**ELECTIVE : SOFTWARE ENGINEERING**

**Subject Description:** This subject deals with Software Engineering concepts like Analysis, Design, Implementation, Testing and Maintenance.

**Goal:** Knowledge on how to do a software project with in-depth analysis.

**Objective:** To inculcate knowledge on Software engineering concepts in turn gives a roadmap to design a new software project.

---

**UNIT-I: Introduction to Software Engineering:** Definitions – Size Factors – Quality and Productivity Factors. **Planning a Software Project:** Planning the Development Process – Planning an Organizational Structure.


**TEXTBOOK:**

1. SOFTWARE ENGINEERING CONCEPTS – Richard Fairley, 1997, TMH.

(UNIT-I: 1.1-1.3, 2.3-2.4  UNIT-II: 3.1-3.4  UNIT III: 4.1-4.2, 5.1-5.2
UNIT-IV: 5.3-5.4, 6.1-6.4  UNIT-V: 8.1-8.2, 8.5-8.6, 9.1-9.3)

**REFERENCE BOOKS:**

1. SOFTWARE ENGINEERING FOR INTERNET APPLICATIONS – Eve Anderson, Philip Greenspun, Andrew Grumet, 2006, PHI.

2. SOFTWARE ENGINEERING PROJECT MANAGEMENT – 2nd Edition, Wiley India.

ELECTIVE/SKILL- MM/ BCA :CASE TOOLS CONCEPTS AND APPLICATIONS

UNIT-I
Data Modeling: Business Growth-Organisational Model-Case Study of student MIS-What is the purpose of such Models-Understanding the business-Types of models-model development approach-the case for structural development-advantages of using a case tool.


UNIT-II
Approach used to solve the problem statement: How to deal with a problem statement-Data flow diagram for Payroll System-Presentation Diagram for Payroll System-sehematics of the model-Forms-Screens-Menu Screens-Dataentry Screens-Report Output Format-Utilities.

Installation of Ubridge and Synthesis: How to use the tools in Ubridge Synthesis for case-Installation of Ubridge Synthesis-Computer Aided Software Engineering-Getting Ubridge to work-Setup-Assign-Housekeep-The Ubridge page.

UNIT-III
Introduction to Ubridge: Introduction - Main flow of the system prototyping your Report-Introducing the Novice Model of the Operation.


UNIT-IV
Diagram definition tool: Introduction-Starting DDT-Drawing your own Icon - Defining the connection rules-Rebuilding your icon.


UNIT-V


2) Object Oriented System Development using the unified modeling language-Mc GraHill International editions.
Reference book:


ELECTIVE : FLASH

UNIT I:


UNIT II:


UNIT III:


UNIT IV:

Using Masking Techniques – Guiding Animations – Optimizing Your Movies – Creating Flash Movies – Creating Flash Movies for the Pocket PC.

UNIT V:


TEXT BOOK:


Reference Books

1. FLASH MX 2004 , Thyaghraran Anbumani , TMH.

ELECTIVE : 3Ds MAX ANIMATION

UNIT I:

UNIT II:


UNIT III:


UNIT IV:

Animating with Cameras – Types of Cameras – Camera View Port – Camera Parameters – Cameras in Animations – Animating with the Target and Free Cameras – Camera Matching.

UNIT V:


Text Book:

3D Animation – An overview – Prentice Hall India.

Reference Books


ELECTIVE: SOFTWARE PROJECT MANAGEMENT

Subject Description: This subject deals with various Techniques for Software Project Management.

Goal: Enables to have sound knowledge on Software Project Management.

Objective: To inculcate knowledge on how to manage a Software Project.


TEXTBOOK:
1. SOFTWARE PROJECT MANAGEMENT – Bob Hughes & Mike Cotterell, 4th ed, PHI.

ELECTIVE : CLIENT/SERVER COMPUTING

Subject Description:  This subject deals with concepts of Client / Server computing. Also it deals with various components of Client / Server Applications.

Goal: Knowledge on Client / Server Concepts and various components of client / server Applications.

Objective: To inculcate knowledge on Client / Server concepts.


TEXTBOOKS:

1. CLIENT / SERVER COMPUTING – Patrick Smith, Steve guenferich , 2nd edition, PHI. (Chapters 1-8 & 10)

Reference Book:


2.”Dewire and Dawana Travis “Client/ Server Computing “, TMH.

**ELECTIVE : SOFTWARE TESTING**

**Subject Description:** This subject deals software testing concepts like unit-wise testing, integration testing and acceptance testing.

**Goal:** Knowledge on software testing and how to test the software at various levels.

**Objective:** To inculcate knowledge on Software testing concepts.

---


TEXTBOOKS:


   (UNIT-I: 2.1-2.5, 3.1-3.4
   UNIT-II: 4.1-4.4, 5.1-5.5
   UNIT III: 6.1-6.7)

   (UNIT IV: 7.1-7.6, 8.1-8.5
   UNIT-V: 15.1-15.6, 17.4-17.7)

REFERENCE BOOKS:

1. EFFECTIVE METHODS OF SOFTWARE TESTING–William E.Perry, 3rd ed, Wiley India.

2. SOFTWARE TESTING – Renu Rajani, Pradeep Oak, 2007, TMH.

ELECTIVE 1 : INTRODUCTION TO COMPILER DESIGN

UNIT I
Introduction to Compliers: Compliers and Translator – Need of Translator – The structure of a Complier – Lexical analysis – Syntax analysis – Intermediate code generation – optimization – code generation – Complier – writing tools. Finite automata and lexical Analysis: The role of the lexical analysis – A simple approach to the design of lexical analyzers- Regular expressions to finite automata – Minimizing the number of states of a DFA.

UNIT – II

UNIT – III
UNIT – IV

UNIT – V

BOOK FOR STUDY

ELLECTIVE - PHP & SCRIPTING LANGUAGES

UNIT I:
VB Script and Java Script: Language structure - control structure - Procedures and functions - Error handling.

UNIT II:
VB Script: Input & Output - Data Validation -Integration with Forms – Activex Control & Scripting

UNIT III:
Java Script: Form Validation – SSI and Cookies – Frames and Windows – MIME Types - Plugins

UNIT IV
PHP: Server side scripting Language: Basic syntax - Types - Variables - Constants - Expressions - Operators - Control Structures

UNIT V
PHP : Functions - Classes and Objects - HTML forms - HTTP authentication with PHP - Cookies - Handling file uploads - Using remote files - Connection handling - Database Connections.

TEXT BOOKS:
2. Lee Purcell, Mary Jane Mara, “The ABCs of Javascript”,
ELECTIVE/SKILL : .NET PROGRAMMING

UNIT I
Introduction to .Net: .net framework- difference between VB6 and VB.Net- Object-Oriented programming and VB.Net- Data types- Variables- Operators- Arrays- Conditional logic.

UNIT II
Procedures- Dialog boxes- File IO and System objects- Error handling- Namespaces- Classes and Objects- Multi threading- Message Queue- Programming MSMQ.

UNIT III

UNIT IV

UNIT V
Web Services: Introduction- Infrastructure- SOAP- Building web services- Deploying and publishing web services- Finding and consuming web services.

Text Book:
1. Bill Evjen, Jason Beres, et.al, “Visual Basic .Net programming”, Wiley Dreamtech India (p) Ltd. ISBN 81-265-0254-1. (Chapters: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 25, 26, 27, 29, 31, 32, 33, 34, 35, 36, 38, 39, 40, 42, 43, 44, 45, 46, 47, 48, 49, 50).

References:
BHARATHIAR UNIVERSITY: COIMBATORE-641 046

B.Sc. CS/IT/CT/SS/MM/CSA & BCA

(For the students admitted from the academic year 2011-2012 and onwards)

CBCS PATTERN

SKILL BASED SUBJECTS

Skill-1 CS : SOFTWARE ENGINEERING & SOFTWARE PROJECT MANAGEMENT

UNIT I

UNIT II

UNIT III


UNIT IV

UNIT V
Project Management in testing phase – in the maintenance phase – Impact on internet on project Management.
Text Books:

REFERENCE BOOK

SKILL2 - CS : SPM LAB
2. Using any of the CASE tools, Practice requirement analysis and specification for different firms.
3. Case study of cost estimation models.
4. Practice object oriented design principles for implementation.
5. Practice function oriented design.
6. Practice creating software documentation for the Analysis phase of software development life cycle for a real time application.
7. Practice creating software documentation for the Development phase of software development life cycle for a real time application.
8. Practice creating software documentation for the Implementation phase of software development life cycle for a real time application.
9. Practice creating software documentation for the Testing phase of software development life cycle for a real time application.
10. Simulate a tool for path testing principles.
11. Simulate a tool for testing based on control structures.
12. Simulate a tool that reflects black box testing concepts

SKILL-3 – CS : SOFTWARE TESTING

Subject Description: This subject deals software testing concepts like unit-wise testing, integration testing and acceptance testing.

Goal: Knowledge on software testing and how to test the software at various levels.

Objective: To inculcate knowledge on Software testing concepts.


**TEXTBOOKS:**


   (UNIT-I: 2.1-2.5, 3.1-3.4  UNIT-II: 4.1-4.4, 5.1-5.5  UNIT III: 6.1-6.7
   (UNIT IV: 7.1-7.6, 8.1-8.5  UNIT-V: 15.1-15.6, 17.4-17.7)

**REFERENCE BOOKS:**

1. EFFECTIVE METHODS OF SOFTWARE TESTING–William E.Perry, 3rd ed, Wiley India.

2. SOFTWARE TESTING – Renu Rajani, Pradeep Oak, 2007, TMH.

**SKILL- 4 – CS : SOFTWARE TESTING LAB**

Write at least 10 TEST CASES for the following programs. Test cases can be for Input data, Conditional expressions, control transfer, output, etc. Run-Test-Debug- until all the test cases are in success status. Marks distribution as follows:

1. List of Test Descriptions (at least 10) for the Program. (20%)

2. Test Cases (40%)

3. Program with all test case results success (30%)

4. Record (10%)
**TEST CASE Example:**

<table>
<thead>
<tr>
<th>Test-Id</th>
<th>Test Description</th>
<th>Test Steps</th>
<th>Expected Output</th>
<th>Actual Output</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC-01</td>
<td>Acceptance of 10 digit input data</td>
<td>Input 10 Digit Number</td>
<td>Accepting 10 digit number</td>
<td>Accepted 10 digit number</td>
<td>Success</td>
</tr>
<tr>
<td>TC-02</td>
<td>Non-acceptance of character data</td>
<td>Input a character data ‘X’</td>
<td>Character X should not be accepted</td>
<td>Character data not accepted</td>
<td>Failure</td>
</tr>
</tbody>
</table>

Modify PIC X(10) into PIC 9(10) and then run program for Test-id TC-02 again

<table>
<thead>
<tr>
<th>Test-Id</th>
<th>Test Description</th>
<th>Test Steps</th>
<th>Expected Output</th>
<th>Actual Output</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC-02</td>
<td>Non-acceptance of character data</td>
<td>Input a character data ‘X’</td>
<td>Character X should not be accepted</td>
<td>Character data not accepted</td>
<td>Success</td>
</tr>
<tr>
<td>TC-03</td>
<td>Digit sum of 10 digit is in single digit</td>
<td>Output data</td>
<td>Single digit sum</td>
<td>Single digit Sum</td>
<td>Success</td>
</tr>
</tbody>
</table>

**SKILL-1: BSC IT: INTRODUCTION TO WEB DESIGN AND APPLICATIONS**

**UNIT I**  
**Fundamentals of Electronic Mail:** Introduction - Email: Advantages and Disadvantages - Userids, Passwords and Email addresses - Message Components - Message Composition - Mailer Features - Email Inner Workings - Email Management - MIME Types. **Browsing and Publishing:** Introduction – Browser bare bones – Coast to Coast surfing – Hyper Text Markup Languages – Web page installation – Web page set up – HTML formatting and hyper link creation

**UNIT II**  

**UNIT III**  
**Searching the world wide web:** introduction – directories, search engines and metasearch engines – search fundamentals – search strategies – how does a search engine works. **Telnet and FTP:** introduction – telnet and remote login – File transfer – Computer Viruses
## UNIT IV


## UNIT V


**Text Book(s)**


### SKILL-2- BSC IT : HTML, XML, Java Scripts - LAB

Students are required to write code snippets, which covers the following objectives

<p>| 1 | Design Simple Web Pages using standard HTML tags like, HEAD, TITLE, BODY |
| 2 | Design HTML web pages, which make use of INPUT, META, SCRIPT, FORM, APPLET, BGSOUND, MAP |
| 3 | Working with various attributes of standard HTML elements |
| 4 | Using Java Script's Window and document objects and their properties and various methods like alert (), eval (), parseInt () etc. methods to give the dynamic functionality to HTML web pages |
| 5 | Writing Java Script snippet which make use of Java Script's inbulit as well as user defined objects like navigator, Date Array, Event, Number etc. |</p>
<table>
<thead>
<tr>
<th></th>
<th>Write code which does the form validation in various INPUT elements like TextField, TextArea, Password, Selection list etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Writing XML web Documents which make use of XML Declaration, Element Declaration, Attribute Declaration</td>
</tr>
<tr>
<td>8</td>
<td>Usage of Internal DTD, External DTD, Entity Declaration.</td>
</tr>
</tbody>
</table>

**SKILL 4 : BSC IT : .NET LAB**

<table>
<thead>
<tr>
<th></th>
<th>Write a program to Detect Errors using Vertical Redundancy Check (VRC).</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Write a program to Detect Errors using Longitudinal Redundancy Check (LRC).</td>
</tr>
<tr>
<td>3</td>
<td>Write a program to Detect Errors using Cyclic Redundancy Check (CRC).</td>
</tr>
<tr>
<td>4</td>
<td>Write a Socket program to implement Asynchronous Communication.</td>
</tr>
<tr>
<td>5</td>
<td>Write a Socket program to implement Isochronous Communication.</td>
</tr>
<tr>
<td>6</td>
<td>Write a program to implement Stop &amp; Wait Protocol.</td>
</tr>
<tr>
<td>7</td>
<td>Write a program to implement Sliding Window Protocol.</td>
</tr>
<tr>
<td>8</td>
<td>Write a Socket Program to Perform file transfer from Server to the Client.</td>
</tr>
<tr>
<td>9</td>
<td>Write a program to implement the Shortest Path Routing using Dijkstra algorithm.</td>
</tr>
<tr>
<td>10</td>
<td>Write a Program to implement Remote Procedure call under Client / Server Environment</td>
</tr>
</tbody>
</table>
SKILL-1 – BSc CT: DATA COMMUNICATION AND NETWORKS

UNIT- I


UNIT- II

Analog and digital transmission methods: Introduction - Analog signal, Analog transmission - Digital signal, Digital transmission - Digital signal, Analog transmission - Baud rate and bits per second - Analog signal, Digital (Storage and) transmission - Nyquist Theorem.

Modes of data transmission and Multiplexing: Introduction – Parallel and Serial communication - Asynchronous, Synchronous and Isochronous communication - Simplex, Half-duplex and Full-duplex communication – Multiplexing - Types of Multiplexing - FDM versus TDM.


UNIT- III


UNIT- IV


Text book:

SKILL-2 BSc CT : NETWORK LAB

1. Write a program to Detect Errors using Vertical Redundancy Check (VRC).

2. Write a program to Detect Errors using Longitudinal Redundancy Check (LRC).

3. Write a program to Detect Errors using Cyclic Redundancy Check (CRC).

4. Write a Socket program to implement Asynchronous Communication.

5. Write a Socket program to implement Isochronous Communication.

6. Write a program to implement Stop & Wait Protocol.

7. Write a program to implement Sliding Window Protocol.

8. Write a program to implement the Shortest Path Routing using Dijkstra algorithm.

9. Write a Socket Program to Perform file transfer from Server to the Client.

10. Write a Program to implement Remote Procedure call under Client / Server Environment

SKILL- 3 - BSc CT: NETWORK SECURITY AND MANAGEMENT

UNIT I


UNIT II


UNIT III


UNIT IV


UNIT V

**Electronic Mail Policy:** Electronic Mail – What are the E-mail threats that organization’s face - Why do you need an E-mail Policy - How do you create an E-mail Policy - Publishing the E-mail Policy - University E-mail Policy.


**Text Books:**

**SKILL-4 - BSc CT: NETWORK SECURITY LAB**

1. Write a program to encrypt the data using the encryption methods:

   (i) Substitution Ciphers  
   (ii) Transposition Ciphers  
   (iii) 

2. Write a program to implement DES algorithm.

3. Write a program to implement the Public Key Cryptography using Diffie-Hellman Algorithm.

4. Write a program to implement the Public Key Cryptography using RSA algorithm.

5. Write a program to secure the Database using User Authentication Security.

SKILL 1  BSC SS : WAP AND XML

UNIT I

UNIT II

UNIT III

UNIT IV

UNIT V

Text Books:
SKILL 2  BSc SS : XML LAB

1. Create a demo for XSLT.
2. Create a menu in XML.
3. Write an XML document to display your bio-data.
4. Display XML information in Tree structure format.
5. Write a XML program to navigate the records in the file.
6. Write a program to save data to an XML file.
7. Write a program to show the function of CDATA.
8. Write a XML program to maintain the student database.
9. Write a program to generate XML file from the Database.
10. Write a XML program to implement the Internal DTD and External DTD. ASP
11. Write a program to load a text file into a div element with XML HTTP.
12. List data from an XML file with XML HTTP.

SKILL – 3 : BSc SS - ASP.NET

Unit I

Unit II
How Dynamic Website Applications work- Processing ASP.NET with Visual basic. NET:VB.NET Programming Language Structures –Built in ASP.NET objects & Interactivity-
The response object –The ASP Server object.

Unit III
Web forms & ASP.NET:
Web forms- ASP.NET Configuration, Scope and State: ASP.NET and configuration-ASP.NET and state –The application object –ASP sessions – The session object.

Unit IV
ASP.NET objects and components:
The Scripting Object Model- Active Server Components and Controls –More Active Server Components.

Unit V
Web services & ASP. NET –WSDL & SOAP- Web services Background – ASP.NET &SQL server- using SQL server –using databases in ASP.NET applications- ActiveX data objects-the ADO.NET objective model –coding structured query language.

TEXT BOOKS:
SKILL 4 : BSc SS :ASP.NET LAB

1. Write a program to display the following feedback form. The different options for the list box must be ASP-XML, DotNET, JavaPro and Unix,C,C++. When the Submit Form button is clicked after entering the data, a message as seen in the last line of the above figure must be displayed.

2. Write a program to display three images in a line. When any one of the images is clicked, it must be displayed below. On clicking the displayed image it must be cleared. The screen must look as in the figures given below:

![Images](image1.png)

3. Write a simple ASP.NET program to display the following Web Controls:
   - A button with text “click me”. The button control must be in the center of the form.
   - A label with a text hello
   - A checkbox.
   The form name must be Web Control

4. Write a program to display “Welcome To Radiant” in the form when the “click” button is clicked. The form title must be ASP.NET.

5. Write a program that displays a button in green color and it should change into yellow when the mouse moves over it.

6. Write a program containing the following controls:
   - A ListBox
   - A Button
   - An Image
   - A Label
   The listbox is used to list items available in a store. When the user clicks on an item in the listbox, its image is displayed in the image control. When the user clicks the button, the cost of the selected item is displayed in the control.

7. Write a JavaScript program to display a calendar with the following specifications:
   - The width of the border is 10 units
8. Write a JavaScript code that displays two advertisements alternately. When the user clicks on one of the advertisements, he/she is redirected to “www.amazon.com”, and the other advertisement redirects the user to “www.fabmart.com”. The weightage of the amazon advertisement is 50 and that of the other one is 40. The advertisement should be centered horizontally and should cover 60% of the width of the screen. Its height should be 80 units. The width of the border should be 5 units.

9. Write a program to get a user input such as the boiling point of water and test it to the appropriate value using CompareValidator.

10. Write a program that uses a textbox for a user input name and validate it for RequiredField Validation.

11. Write a program that gets user input such as the user name, mode of payment, appropriate credit card. After the user enters the appropriate values the Validation button validates the values entered.

12. Create a Form that receives the user name, address, date, nationality, country preferred for working and skill sets from the user and stores the user name in the client using cookies. The country preferred data should appear in a dropdownlist whereas, others should be entered in a text box. Validate all the controls. The Form is named “formexp.aspx”. The date should appear between “1/1/1990” and 1/1/2012.
SKILL 1 : MM : Introduction to PHP Programming

UNIT – I

UNIT – II

UNIT – III

UNIT – IV

UNIT – V

TEXT BOOK

Text Books:
2. Spring into PHP5 – Steven Holzer, Tata McCraw Hill Edition
SKILL 2 : MM : PHP Programming Lab

1. Develop a PHP program using controls and functions
2. Develop a PHP program and check message passing mechanism between pages.
3. Develop a PHP program using String function and Arrays.
4. Develop a PHP program to display student information using MYSQL table.
5. Develop a PHP program to design a college application form using MYSQL table.
6. Develop a PHP program using parsing functions (use Tokenizing)
7. Develop a PHP program and check Regular Expression, HTML functions, Hashing functions.
8. Develop a PHP program and check File System functions, Network functions, Date and time functions.
9. Develop a PHP program using session
10. Develop a PHP program using cookie and session

SKILL 3 – BSC MM : ANIMATION TECHNIQUES

Subject Description : This Subject deals with the Animation Techniques.

Goal : To learn about Animation.

Objective: On Successful Completion of this subject the students should have :
- 2D & 3D Animation, Script Animation, Motion Caption, Audio & Video Format etc.

UNIT I:

UNIT II:
UNIT III:


UNIT IV:


UNIT V:


TEXT BOOK:

Joestadararo, Donkim – “Maya 6.0 Bible “.
Kelly Ldot Murtock – “3DS Max Bible “.

Reference Book :


SKILL– 4 : BSc MM : ANIMATION LAB - FLASH

PRACTICAL LIST

1. Create Shapes and Drawings in Flash.
2. Change a Shape to Another Shape. (Shape Animation)
3. Create a Man to walk with the help of Key Frame Animation.
4. Draw a Bird with Flash tools and make it fly with key Frame Animation.
5. Change the Colors of an object with the help of Animation.
6. Animate a Ball with the help of Guide line Animation. (Path Animation)
7. Create a Shining Stores with the help of Movie Clip.
8. Create Buttons & Link with other Frames.
9. Create an Album with the help of Buttons.
10. Create a 3D Rotation of a Box with the Help of Shape Animation.
11. Create Morphing between two images in Flash.
12. Create a Simple game with the help of Action Script.

REFERENCE BOOKS:

2. Flash 8 – Ethan Waterall & Norbert Herber, dreamtech.
SKILL 2 – BSC CSA: PHP Programming LAB

1. Develop a PHP program using controls and functions
2. Develop a PHP program and check message passing mechanism between pages.
3. Develop a PHP program using String function and Arrays.
4. Develop a PHP program to display student information using MYSQL table.
5. Develop a PHP program to design a college application form using MYSQL table.
6. Develop a PHP program using parsing functions (use Tokenizing)
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8. Develop a PHP program and check File System functions, Network functions, Date and time functions.
9. Develop a PHP program using session
10. Develop a PHP program using cookie and session

SKILL 3 BSc CSA :WEB DESIGNING WITH ASP & ASP. Net

Unit 1

Unit 2
Introduction to ASP VB Script – active server objects : applications ,server, session , response, request - active server components : server side components.

Unit 3

Unit 4
Unit 5
Introduction to ADO- working with ADO connection object, command object and record set objects – over view of ADO and ADO.Net – ADO.Net providers, process – editing data with ADO.Net – ADO and SQL server.

Subject book.
2. Using Active server pages by Scot Johnson PHI Spl Edn.
3. ASP.Net a beginners guide by Dave Merces TMH 2002 Edn.
4. ADO & ADO.Net programming by Mike Yenderloy BPB publications 2002 Edn.

SKILL 4 : BSc CSA : ASP LAB

1. Design a personal web page using ASP.
2. Design a data entry form in ASP.
3. Write a Program in ASP to get data using a form, validate the data and returns the same data for correction if any using the same form.
4. Write a program in ASP to display the Session properties.
5. Write a program in ASP that makes use of Ad Rotator component.
6. Write a program in ASP that makes use of Browser Capabilities component.
7. Write a program in ASP that makes use of Content Rotator component.
8. Write a program in ASP that makes use of page counter component.
9. Write a program in ASP to get the data of students using forms and stores them in database.
10. Write a program in ASP to perform record navigation using a form.

SKILL – 1 : BCA - WEB PROGRAMMING

Unit I

Unit II

Unit III

Unit IV
Unit V
XML (contd) : Working with XML Schema - Declaring Attributes – XML namespaces –
Reusing Schema Components – Grouping elements and attributes. XML Style sheets :
Introduction – CSS – eXtensible Style Sheet language – Formatting Data based on controls –
Displaying data in a Tabular Format.

Text Books:
1. “Internet and Web Design”, ITL Education, Macmillan India Ltd..

REFERENCE BOOK:

SKILL – 2 : BCA - WEB PROGRAMMING LAB

PRACTICAL LIST

1. Develop a HTML document which displays you name as <h1> heading and displays any
four of your friends. Each of your friend’s names must appear as hot text. When you click
your friend’s name, it must open another HTML document, which tells about your friend.

2. Write names of several countries in a paragraph and store it as an HTML document,
world.html. Each country name must be a hot text. When you click India (for example), it
must open india.html and it should provide a brief introduction about India.

3. Design a HTML document describing you. Assign a suitable background design and
background color and a text color.

4. Develop a HTML document to print the following:
   Who can use the solar heaters?
   Anybody with a regular hot water demand.
   • In houses for domestic purposes (cooking, bathing and washing).
   • For engineering / chemical industries, dairies and textile/leather process
     plants, to –preheat boiler feed water.
   • For hostels, hospitals, guest houses and industrial canteens.
   • For food-processing plants and for process applications.

5. Write a HTML document to print the following:
The family has the following facilities:
1. Own House
   • Living area 2400 square feet
   • Separate bungalow
   • Car shed
2. Car
   • Maruti Esteem
   • Registration Number TN 38 A 9650
   • 1996 Model
3. Farm
• 35 acres Coconut Groves  
• 10 acres Mango Groves

6. Write a HTML document to print your class Time Table.

7. Develop a Complete Web Page using Frames and Framesets which gives the Information about a Hospital using HTML.

8. Write a HTML document to print your Bio-Data in the following format:
   NAME  
   Religion  
   Community  
   Street  
   Town  
   District  
   State  
   Address  
   PIN Code  
   Office  
   Phone  
   Residence  
   Mobile  
   Educational Qualification  
   Degree University/Institute Month& year Grade / Mark

9. Develop complete set of web pages to describe you skills in various areas using HTML.

10. Develop a web site to publish your family and the details of each member using HTML.

11. Develop a HTML document to display a Registration Form for an inter-collegiate function.

12. Develop a HTML document to design Alumni Registration form of your college.

**Skill 4 : BCA - CASE TOOLS -Lab**

1. To design an ATM transfer system using UML diagram and to generate VB code.

2. To design a student mark analysis using UML diagram and to generate VB code.

3. To design a platform assignment system using UML diagram and to generate VB code.

4. To design a railway reservation system using UML diagram and to generate VB code.

5. To design an expert system for medicine field using UML diagram and to generate VB code.
6. To design a stock maintenance system using UML diagram and to generate VB code.

7. To design a quizzing system using UML diagram and to generate VB code.

8. To design a remote computer monitoring system using UML diagram and to generate VB code.

9. To design an online ticket reservation system using UML diagram and to generate VB code.

10. To design an E-mail client server system using UML diagram and to generate VB code.
B.S.C. CS, BCA, IT, SS, CT, MM, CSA revised scheme & Syllabus 2011-12
Annexure 29A
SCAA Dt.11-05-2012

Bharathiar University: Coimbatore-641 046

B.Sc. CS/IT/CT/SS/MM/CSA & BCA

(For the students admitted from the academic year 2011-2012 and onwards)

CBCS Pattern

Guidelines for project work

- The aim of the project work is to acquire practical knowledge on the implementation of the programming concepts studied.

- Each student should carry out individually one project work and it may be a work using the software packages that they have learned or the implementation of concepts from the papers studied or implementation of any innovative idea.

- The project work should be compulsorily done in the college only under the supervision of the Department staff concerned.

  - The work has to be done in two parts.
  - During V Semester - Up to Logical System design.
  - During VI Semester – Physical System Design

- University Exam will be conducted as follows.

  **End Semester Viva**
  
  - An End-semester Viva-voce will be conducted at the end of V semester for 50 marks.
  
  - There is no minimum or pass marks.

  - Both the Internal (Respective Guides) and External Examiners (25+25) should conduct the Viva-Voce Examination at the last day of the practical session.

  - Along with the mark sheet an Annexure report containing the candidate’s Register no and Title of the Project work should be sent to the Controller of Examinations by the Examiners and a copy of the same has to be retained in the College.

  - No candidate will be allowed to change the title of the Project work after the completion of End-semester Viva.

  - For those absent on genuine grounds a common subliment End-Semester Viva-voce may be conducted at the University for All Colleges by obtaining prior permission from the COE on the recommendations from the HODs of respective colleges before the commencement of the next semester.
Final Viva

- Final Viva-Voce will be conducted at the end of VI semester by Both the Internal (Respective Guides) and External Examiners (75+75), after duly verifying the Annexure Report available in the College, for a total of 150 marks at the last day of the practical session.

- Out of 75 marks, 50 for Project Evaluation and 25 for Viva.

- For awarding a pass, a candidate should have obtained 40% of the Total 200 marks (End semester Viva + Final Viva).
PROJECT WORK

TITLE OF THE DISSERTATION

Bonafide Work Done by
STUDENT NAME
REG. NO.

Dissertation submitted in partial fulfillment of the requirements for the award of Bachelor of Computer Science………
Of Bharathiar University, Coimbatore-46.

 guideline
HOD

Submitted for the Viva-Voce Examination held on ________________

Internal Examiner External Examiner

MONTH – YEAR

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ACKNOWLEDGEMENT
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1.2 SYSTEM SPECIFICATION
1.2.1 HARDWARE CONFIGURATION
1.2.2 SOFTWARE SPECIFICATION

2. SYSTEM STUDY
2.1 EXISTING SYSTEM
2.1.1 DRAWBACKS
2.2 PROPOSED SYSTEM
2.2.1 FEATURES

3. SYSTEM DESIGN AND DEVELOPMENT
   3.1 FILE DESIGN
   3.2 INPUT DESIGN
   3.3 OUTPUT DESIGN
   3.4 DATABASE DESIGN
   3.5 SYSTEM DEVELOPMENT
      3.5.1 DESCRIPTION OF MODULES
         (Detailed explanation about the project work)

4. TESTING AND IMPLEMENTATION

5. CONCLUSION

BIBLIOGRAPHY

APPENDICES

A. DATA FLOW DIAGRAM
B. TABLE STRUCTURE
C. SAMPLE CODING
D. SAMPLE INPUT
E. SAMPLE OUTPUT