B.Sc
Information Technology

Program Specific Outcome(PSO)

To enable the student to emerge as:

PSO1: An expert in Software design, Coding, Testing and Documentation.

PSO2: Efficient programmer using high level languages and scripting languages such as C, C++, JAVA, PHP, XML.

PSO3: ASIC designer with depth knowledge of Digital logic design, Computer architecture, Artificial Intelligence and Internet of Things

PSO4: Well versed in the functions of various modules of different types of operating systems.

PSO5: System/Network Administrator with indepth knowledge in Network design & analysis, Network security and Software defined networks

PSO6: Developer of open source technologies

PSO7: Data Scientist with in depth knowledge in Data structure, Database and Data Mining

PSO8: Specialist in Mobile computing, Distributed computing, Image processing, Virtualization techniques and Cloud Computing

School of Computing Sciences

B.SC. IT

Board of Studies Members

Sl.No	Name & Address	Designation
1.	**Dr.P.Swaminathan**, Dean, School of Computing Sciences, Vels University, Chennai.	**Chairman**
2.	**Dr.P.Mayilvahanan**,Professor, Department of Computer Applications, School of Computing Sciences, Vels University, Chennai.	**Internal Board Member**
3.	**Dr.S.Prasanna**, HOD, Department of Computer Applications, Vels University, Chennai.	**Internal Member**
4.	**Dr.S.Sujatha**, HOD, Department of Information Technology, School of Computing Sciences, Vels University, Chennai.	**Internal Member**
5.	**Dr.K.Kalaiselvi**, HOD, Department of Computer Science, School of Computing Sciences, Vels University, Chennai.	**Internal Member**
6.	**Dr.K.R.Ananthapadmanaban** Professor & HOD, Department of Computer Science, SRM Arts and Science College, Chennai.	**External Member**
7.	**Dr.P.Magesh Kumar**, Calibsoft Technologies Pvt Ltd., Chennai.	**Industry Member**
8.	**Dr.JothiVenkateswaran**, HOD, Department of Computer Science, Presidency College, Chennai.	**Special Invitees**
9.	**Mr.R.Balamurugan**, SCOPUS Ltd, Chennai.	**Alumni Member**

Curriculum and Syllabus

(Based on Choice Based Credit System)

Effective from the Academic year

2015 - 2016

(Modified Version)

Department of Information Technology

School of Computing Sciences

B.Sc
Information
Technology

SEMESTER I **TOTAL NO OF CREDITS: 140**

CATEGORY	CODE NUMBER	COURSE	HRS / WEEK			CREDITS
			LECTURE	TUTORIAL	PRACTICAL	
CORE	15BIT001	PROGRAMMING IN C	5	0	0	4
CORE	15BIT002	PROGRAMMING IN C LAB	0	0	4	2
CORE	15BMA001	MATHEMATICS I	6	0	0	4
DSE	15--------	DSE - 1	5	0	0	4
AECC	15LTA001/ 15LHN001/ 15LFR001	AECC - 1	5	0	0	4
AECC	15LEN001	AECC - 2	5	0	0	4
TOTAL			**26**	**0**	**4**	**22**

SEMESTER II

CATEGORY	CODE NUMBER	COURSE	HRS / WEEK			CREDITS
			LECTURE	TUTORIAL	PRACTICAL	
CORE	15BIT003	PROGRAMMING IN C++	5	0	0	4
CORE	15BIT004	PROGRAMMING IN C++ LAB	0	0	4	2
CORE	15BMA002	MATHEMATICS II	6	0	0	4
DSE	15--------	DSE - 2	5	0	0	4
AECC	15LTA002/ 15LHN002/ 15LFR002	AECC - 3	5	0	0	4
AECC	15LEN002	AECC - 4	5	0	0	4
TOTAL			**26**	**0**	**4**	**22**

SEMESTER III

CATEGORY	CODE NUMBER	COURSE	HRS / WEEK			CREDITS
			LECTURE	TUTORIAL	PRACTICAL	
CORE	15BIT005	PROGRAMMING IN JAVA	5	0	0	4
CORE	15BIT006	PROGRAMMING IN JAVA LAB	0	0	4	2
CORE	15BMA003	STATISTICS& NUMERICAL METHODS	5	0	0	4
DSE	15--------	DSE - 3	3	0	0	3
GE	15 ---------	GE - 1	2	0	0	2
AECC	15LTA003/ 15LHN003/ 15LFR003	AECC - 5	5	0	0	4
SEC	15BIT252	SEC - 1	4	0	0	3
SEC	15NSS255/ 15GPD251/ 15EVB261	SEC - 2	2	0	0	2
TOTAL			**26**	**0**	**4**	**24**

SEMESTER IV

CATEGORY	CODE NUMBER	COURSE	HRS / WEEK			CREDITS
			LECTURE	TUTORIAL	PRACTICAL	
CORE	15BIT007	VISUAL PROGRAMMING	5	0	0	4
CORE	15BIT008	DATABASE MANAGEMENT SYSTEM	4	0	0	4
CORE	15BIT009	RDBMS LAB	0	0	4	2
DSE	15--------	DSE - 4	5	0	0	3
GE	15 ---------	GE - 2	2	0	0	2
AECC	15LTA004/ 15LHN004/ 15LFR004	AECC - 6	4	0	0	4
AECC	15EVS201	AECC - 7	2	0	0	2
SEC	15BIT252	SEC - 3	4	0	0	3
TOTAL			**26**	**0**	**4**	**24**

SEMESTER V

CATEGORY	CODE NUMBER	COURSE	HRS / WEEK			CREDITS
			LECTURE	TUTORIAL	PRACTICAL	
CORE	15BIT010	COMPUTER NETWORKS	4	0	0	4
CORE	15BIT011	OPERATING SYSTEM	4	0	0	4
CORE	15BIT012	OPERATING SYSTEM LAB	0	0	4	2
CORE	15BIT013	SOFTWARE TESTING	4	0	0	4
CORE	15BIT014	SOFTWARE TESTING LAB	0	0	4	2
CORE	15BIT015	MULTIMEDIA	4	0	0	3
DSE	15-------	DSE - 5	4	0	0	3
GE	15-------	GE - 3	2	0	0	2
TOTAL			**22**	**0**	**8**	**24**

SEMESTER VI

CATEGORY	CODE NUMBER	COURSE	HRS / WEEK			CREDITS
			LECTURE	TUTORIAL	PRACTICAL	
CORE	15BIT016	WEB TECHNOLOGY	5	0	0	4
CORE	15BIT017	WEB TECHNOLOGY LAB	0	0	4	2
CORE	15BIT018	PRE PROCESSOR HYPERTEXT (PHP)	4	0	0	4
CORE	15BIT019	PRE PROCESOR HYPERTEXT LAB (PHP)	0	0	4	2
CORE	15BIT020	OBJECT ORIENTED ANALYSIS & DESIGN	5	0	0	4
DSE	15 --------	DSE - 6	4	0	0	4
DSE	15--------	DSE - 7	4	0	0	4
TOTAL			**22**	**0**	**8**	**24**

List of Discipline Specific Elective (DSE)

Subject code	Title of the Paper
15BIT101	Data Structures
15BIT102	Computer Algorithm
15BIT103	Information Technology
15BIT104	Digital Logic Fundamentals
15BIT105	Computer Architecture
15BIT106	Management Information System
15BIT107	Computer Graphics
15BIT108	Software Engineering
15BIT109	Software Project Management
15BIT110	Microprocessor and its Applications
15BIT111	Data Mining
15BIT112	Image Processing
15BIT113	Mobile Computing
15BIT114	Organizational Behavior
15BIT115	Distributed Computing
15BIT116	Extensible Markup Language (XML)
15BIT117	Artificial Intelligence
15BIT118	E-Commerce
15BIT119	System Analysis and Design
15BIT120	Open Source Technologies
15BIT121	Cloud Computing

List of Generic Elective (GE)

Subject Code	Title of the Paper
15BIT151	Web Designing
15BIT152	Flash
15BIT153	Internet Basics.
15BIT154	Step up programming level-1
15BIT155	Step up programming level-2
15BIT156	Advanced Excel
15BIT157	Office Automation Tools
15BIT158	My - Sql
15BIT159	Client side Scripting Languages

List of Ability Enhancement Compulsory Course(AECC)

Subject Code	Title of the Paper
15LEN001	Foundation Course English I
15LTA001	Foundation Course Language I
15LHN001	Hindi Paper – I
15LFR001	French Paper - I
15LEN002	Foundation Course English II
15LTA002	Foundation Course Language II
15LHN002	Hindi Paper – II
15LFR002	French Paper - II
15LTA003	Foundation Course Language III
15LHN003	Hindi Paper – III
15LFR003	French Paper - III
15LTA004	Foundation Course Language IV
15LHN004	Hindi Paper – IV
15LFR004	French Paper - IV
15EVS201	Environmental Science

List of Skill Enhancement Course (SEC)

Subject Code	Title of the Paper
15BIT251	English for Communication –I
15BIT252	English for Communication –II
15GPD251	Personality Development
15NSS255	National Service Scheme (NSS).
15EVB261	Ethics.

Syllabus
Core Courses

15BIT001 PROGRAMMING IN C 5 004

COURSE OBJECTIVE:

- This course introduces the basic concepts of programming in C.
- This subject deals various methods programming using the C languages.
- On successful completion the students should have programming ability.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Understand the fundamentals of C programming
- Choose the loops and decision making statements to solve the problem.
- Implement different Operations on arrays
- Use functions to solve the given problem
- Understand pointers, structures and unions
- Implement file Operations in C programming for a given application
- Design, implement, test and debug programs that use functions
- Design, implement, test and debug programs that use arrays for character strings and that use pointers for character strings.

- Analyze programming problems to choose when regular loops should be used and when recursion will produce a better program.
- Design, implement, test and debug programs that use different data types, such as simple variables, arrays, and structures.

UNIT IINTRODUCTION **15**

Fundamental character set – Identifier and keywords – data types – Constants – variables – Declarations – Expressions – Statements – Arithmetic, Unary, Relational and logical, Assignment and conditional Operators – Library Functions.

UNIT II CONTROL STRUCTURES **15**

Data input output functions – Simple C programs – Flow of control – if, if-else, while, do-while, for loop, Nested control structures – Switch, Break and continue, go to statements – Comma operator.

UINT IIIFUNCTIONS **15**

Functions – Definition – Proto-types – Passing arguments – Recursions – storage Classes – Automatic, External, Static, Register Variable – Multi-file programs.

UNIT IVARRAY **15**

Arrays – defining and Processing – Passing arrays to functions – Multi-Dimensional Arrays – Arrays and String. Structures – User defined data types – Passing structures to functions – self-referential structures – Unions – Bit wise operations.

UNIT VSTRUCTURES **15**

Pointers – Declarations – Passing pointers to functions – Operation in Pointers – Pointer and Arrays – Arrays and Pointers - Structures and Pointers – Files – Creating, Processing, Opening and Closing a data file.

Total No of Hours: 75

TEXT BOOKS

1. E. Balaguruswamy, 2009, “Programming in ANSI C”, TMH publishing Company LTD
2. H. Schildt, 2008, “The Complete Reference in C”, 4th Edition, TMH.

REFERENCE BOOKS

1. Gottfried, B.S, 2006, Programming with C, second edition, TMH Pub.Co.Ltd.
2. Kanetkar Y, 2003, Let us C, BPB publications with ANSI & Turbo C, First edition, Pearson Education,New Delhi.

15BIT002 PROGRAMMING IN C LAB 0 0 4 2

COURSE OBJECTIVE:

- The lab introduces the basic concepts of C programming.
- Practices the student to write simple programs using C.
- Improves the logical thinking in C programming.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Design an algorithmic solution for a given problem.
- Draw flowcharts for the solution.
- Employ good software engineering practices such as incremental development, data integrity checking and adherence to style guidelines.
- Select and model data using primitive and structured types.
- Construct programs that demonstrate effective use of C features including arrays, structures, pointers and files.
- Write a maintainable C program for a given algorithm.
- Debug a given program.
- Execute the C program.

1. Palindrome

2. Vowel count

3. String manipulation

4. Factorial

5. Npr & Ncr

6. GCD

7. Fibonacci series

8. Matrix addition

9. Matrix transpose

10. Programming using structure

11. Programming using pointer

Total No. Of Hours: 60

15BMA001 MATHEMATICS – I 6 0 0 4

COURSE OBJECTIVE

- To develop the skills of the students in the areas of Trigonometry, Set Theory, Calculus and Algebra.

UNIT ITRIGNOMENTRY 18

Introduction – Angles – Expansions of sinn cosn,tann. Expansion of sin, cos, tan, in terms of - Simple problems.

UNIT II SET THEORY 18

Sets – Operations on sets – Relations – Relations and functions: Equivalence relations – Partial order relation.

UNIT III MATRICES **18**

Introduction-Basic operations-Symmetric-skew symmetric-Hermitian-Skew Hermitian –Unitary orthogonal-Inverse of a matrix -Solution of linear system(Cramer's rule)- Finding the Eigen roots and Eigen vectors of a matrix-Cayley Hamilton theorem(without proof)

UNIT IV THEORY OF EQUATIONS **18**

Polynomial, equations with real coefficients, irrational roots, complex roots, symmetric functions of roots, Transformation of equation by increasing or decreasing roots by a constant, reciprocal equations, Newton's method to find the root approximately.

UNIT V DIFFERNTIAL CALCULUS **18**

Differentiation – Successive differentiation – Partial differentiation – Maxima and Minima of functions of two variables.

Total No of Hours: 90

TEXT BOOK

1. P.R. Vittal, "Allied Mathematics", Margham Publications, 4th Edition 2009.

REFERENCE BOOK

1. A. Singaravelu, "Allied Mathematics", Meenakshi Agency, 2007.

15BIT003 OBJECT ORIENTED PROGRAMMING IN C++ 5 0 0 4

COURSE OBJECTIVE:

- This course introduces the basic concepts of programming in C++
- To improve the problem solving skills using OOPS concept
- Improves completion the students should have programming ability on C++

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Understand the difference between object oriented programming and procedural oriented language and data types in C++.
- Program using C++ features such as composition of objects, Operator overloading, inheritance, Polymorphism etc.
- Understand functions and parameter passing.
- Do numeric (algebraic) and string-based computation.
- Implement exception handling and templates.
- Develop applications using Console I/O and File I/O
- Understand object-oriented design and programming.
- Understand dynamic memory allocation and pointers.
- Design, implement, and test relatively large C++ programs.

UNIT I INTRODUCTION TO OOPS 12

Need object oriented programming, comparison of procedural and object oriented approach, characteristics of OOPs – object,classes, polymorphism, inheritance, reusability, data hiding and abstraction, applications of OOPs

UNIT IICLASSES AND OBJECTS 18

Class declaration, constructors, constructor initialization lists, access functions, private member functions, the copy constructor, the class destructor, constant objects, structures, pointers to objects, static data members, static function members

UNIT III OPERATOR OVERLOADING **18**

Overloading the assignment operator, the this pointer, overloading arithmetic operators, overloading the arithmetic assignment, operators, overloading the relational operators ,overloading the stream operators, conversion operators, overloading the increment and decrement operators, overloading the subscript operator.

UNITIVCOMPOSITION AND INHERITANCE **12**

Inheritance, protected class members, overriding and dominating inherited members, private access verses protected access, virtual functions and polymorphism, virtual destructors, abstract base classes.

UNIT V STRINGS AND STREAMS **15**

The string class interface, the constructors and destructor, the copy constructor, the assignment operator, the addition operator, an append operator, access functions, the comparison operators, stream operators, stream classes, the iosclass, ios format flags, ios state, variables, the istreamandostream classes, unformatted input functions, unformatted output functions, stream manipulators.

Total No of Hours: 75

TEXT BOOK

1. E.BalaGurusamy,"Object Oriented Programming with C++", Tata MC Graw Hill Education.
2. H. Schildt, 2008, "The Complete Reference C++", 4th Edition, TMH.

REFERENCE BOOK

1. Yashwant kanitkar , "Let us C++", 3rd edition ,BPB publications.

15BIT004 PROGRAMMING IN C++ 0 0 4 2

COURSE OBJECTIVE

- This course introduces the basic concepts of programming in C++
- To improve the problem solving skills using OOPS concept
- Improves the programming ability on C++

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- To familiarize the students with language environment.
- To implement various concepts related to language.
- Ability to write object-oriented programs of moderate complexity in C++.
- Understanding of the concepts of inheritance and polymorphism.
- Use template classes and the STL library in C++ and Java.
- Overload operators in C++.
- To incorporate exception handling in object-oriented programs.
- Understandthe difference between function overloading.
- Implement Object Oriented Programs using templates concepts.

LIST OF PRACTICALS

1. Implement an Account Class with member functionsto Compute Interest, Show Balance, Withdraw and Deposit amount
   from the Account.
2. Create class 'Complex' of complex numbers. The class should be including member functions to add and subtract two
   complex numbers. .
3. To implement a student class having roll no,name, rank, addresses as data members.

4. To implement a sphere class with appropriate members and member function to find the surface area and the volume.

   (Surface = 4 π r2 and Volume = 4/ 3 π r3)
5. To implement matrix class. Add member function to transpose the matrix.
6. To create the class shape, and overload the function to return the perimeters of the different shapes.
7. To demonstrate constructor with default argument.
8. To demonstrate the public, protected and private parameters.
9. To implement a class for complex numbers with add and multiply as memberfunctions. Overload ++ operator to increment a complex number.
10. To demonstrate multiple inheritances**.**

Total No of Hours: 60

15BMA002 MATHEMATICS – II 6 0 0 4

COURSE OBJECTIVE

To impart the knowledge of Integral calculus, Differential Equations, Fourier series and Laplace transform. The course will also serve as a prerequisite for post graduate and specialized studies and research

UNIT I DIFFERNTIAL CALCULUS 18

Differential Calculus: Functions and limits – Differentiation – Successive Differentiation – Partial Differentiation – Maxima and Minima of Functions of two variables.

UNIT II INTEGRAL CALCULUS 18

Integral Calculus: Integration – Definite Integrals – Reduction Formulae.

UNIT III EULER'S EQUATION **18**

Ordinary differential equations: Second order and non-homogenous linear differential equations with constant coefficients – Second order linear differential equations with variable coefficients. (Euler's form only).

UNIT IV PARTIAL EQUATION **18**

Formation of Partial differential equations by eliminating arbitrary constants and arbitrary function – Solutions of standard types of First order equations – f(p,q)= 0; f(x,p,q)= 0, f(y,p,q)= 0, f(z,p,q)= 0, z= px+qy+ f(p,q) – Lagrange method of solving linear partial differential equations Pp+Qq=R.

UNIT V FOURIER SERIES **18**

Fourier series of periodic functions on the interval [c, c+2□] – Half range series.

Total No of Hours: 90

TEXT BOOK

1. Higher engineering mathematical by B.S Grewal

REFERENCE BOOK

1. Mathematical foundations by P.R. Vittal.

15BIT005 PROGRAMMING IN JAVA **5 0 0 4**

COURSE OBJECTIVE

- To make students familiar with oops & applet programming
- Java programming can be used to developboth web based & console based application & standalone application
- Java is one of the top most languages used in most of the IT companies. It is a job assured course.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Create Java programs that solve simple business problems.
- Identify classes, objects, members of a class and relationships among them needed for a specific problem
- Construct a Java class
- Perform a test plan to validate a Java program.
- Document a Java program.
- Write Java application programs using OOP principles and proper program structuring
- Write Java programs to implement error handling techniques using exception handling
- Demonstrate the concepts of polymorphism and inheritance
- Discuss method overriding V/s method overloading
- Understand the benefits of JAVA's Exceptional handling mechanism compared to other Programming Language
- Write Java programs to implement error handling techniques using exception handling
- Understand the concepts of Applet for web designing
- Understand the Abstract Windowing Toolkit for Layout Managers using Applet

UNIT IINTRODUCTION TO JAVA 12

Introduction to Java – Features of Java – Object Oriented Concepts – Lexical Issues – Data Types – Variables – Arrays – Operators – Control Statements.

UNITII CLASSES & OBJECTS 18

Classes – Objects – Constructors – Overloading method – Static and fixed methods – Inner Classes – String Class – Inheritance – Overriding methods – Using super – Abstract class.

UNIT III PACKAGES 17

Packages – Access Protection – Importing packages – Exception Handling – Throw and Throws – Thread – Synchronizing – Messaging – Runnable Interface – Inner thread Communication – Deadlock – Suspending, Resuming and stopping threads – Multithreading.

UNIT IV INPUT – OUTPUT STREAMS **13**

I/O streams – File Streams – Applets-String Buffer-Char Array-Java Utilities-Code Documentation.

UNIT V AWT **15**

AWT - Working with windows using AWT Classes-AWT Controls-Layout Managers and Menus.

Total No of Hours: 75

TEXT BOOKS

1. Cay S.Horstmann, Gary Cornell-Core Java 2 Volume 1 – Fundamentals,5th PHI,2000.
2. E.Balaguruswamy, ”Programming with JAVA”,3rd edition ,Tata McGraw- Hill Publications, 2007.

REFERENCE BOOKS

1. K.Arnold and J.Gosling- The Java Programming Language – Second Edition,Addison Wesley,2002.
2. P.Naughton and H.Schildt –Java2 (The Complete References)-Seventh Edition,TMH 2004.

15BIT006 PROGRAMMING IN JAVA LAB **0 0 4 2**

COURSE OBJECTIVE:

- To make students familiar with oops & applet programming
- Java programming can be used to develop both web based & console based application & standalone application
- Java is one of the top most languages used in most of the IT companies. It is a job assured course.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Write, compile, and execute Java programs that may include basic data types and control flow constructs using J2SE or other Integrated Development Environments (IDEs) such as Eclipse, NetBeans, and JDeveloper.

- Write, compile and execute Java programs using object oriented class structures with parameters, constructors, and utility and calculations methods, including inheritance, test classes and exception handling.

- Write, compile and execute Java programs using arrays and recursion.
- Write, compile and execute Java programs manipulating Strings and text documents.
- Write, compile and execute Java programs that include GUIs and event driven programming.
- Write a final project that may be selected from among the following: applets for inclusion in web pages; applets to access enterprise data bases in robust, enterprise three level applications; secure communications over the internet; or an approved project chosen by the student.

INTRODUCTION **30**

1. Finding area and Perimeter of a circle. Use Buffered Reader Class.
2. Substring Removal from a String. Use String Buffer Class.
3. Determining the order of numbers generated randomly using Random Class.
4. Implementation of Point Class for Image Manipulation.
5. Usage of Calender Class and manipulation.
6. String Manipulation using Char Array.
7. Database Creation for storing e-mail addresses and manipulation.
8. Usage of Vector Classes.
9. Implementation Thread based applications & Exception Handling.
10. Application using synchronization such as thread based,Class based and synchronized

APPLET **30**

1. Working with Frames and various controls.
2. Working with Dialogs and Menus.
3. Working with Panel and Layout.
4. Incorporating Graphics.
5. Working with Colors and Fonts.

Total No of Hours: 60

15BMA003 STATISTICAL AND NUMERICAL METHODS

5 0 0 4

COURSE OBJECTIVE: Tolearn about data analysis

UNIT I INTRODUCTION TO STATISTICS **15**

Frequency distribution-Diagrammatic representation-Measures of Central Tendency: Mean, Median, Mode, Geometric mean, Harmonic mean-Measures of Dispersion: Range, Quartile Deviation, Mean Deviation, Standard Deviation, Coefficient of Variation .

UNIT IICORRELATION ANALYSIS **15**

Introduction, Methods of Studying Correlation- Karl Pearson's Coefficient Of Correlation-Spearman's Rank Correlation Coefficient: Ranks are given, Ranks are not given, Equal ranks or Repeated Values. Regression Analysis: Two Regression Equations-Regression Equation of X on Y, Regression Equation Of Y on X.

UNITIII SAMPLING **15**

Test of hypothesis- Test of Significance for Small Samples: t test- Single Mean, Two Mean, Paired t-test- F test-Chi Square Test: Goodness of Fit, 2X2 Contingency table.

UNITIV ROOTS OF EQUATIONS 15

Graphical Method- Bisection Method- False position Method – Newton –Raphson's Method- Secant Method- Algebraic Equations: Gauss Elimination Method- Gauss- Jordan Method- Matrix Inverse Method- Gauss-Seidel Method.

UNIT V NUMERICAL INTEGRATION AND DIFFERENTIATION 15

Trapezoid Rule- Simpson's Rule- Application of numerical methods to differential equations: Runge-Kutta Order Methods

Total No of Hours: 75

TEXT BOOK

1. Richard A.Johnson , "Probability and Statistics for Engineers 8th Economy Edition, Miller & Freund's Publications ,2010

REFERENCE BOOK

1. B.S Grewal , "Numerical Methods in Engineering & Science ",Khanna Publishers,2010.

15BIT007 VISUAL PROGRAMMING 5 0 0 4

COURSE OBJECTIVE:

- To inculcate knowledge on Visual Basic concepts and Programming.
- Identify the differences between the procedural languages and event-driven languages.
- To Design, create, build, and debug Visual Basic applications

COURSE OUTCOMES

On successful completion of this course, the student should able to:

- Demonstrate fundamental skills in utilizing the tools of a visual environment in terms of the set of available command menus and toolbars
- Use delegates and events for producing event-driven application
- Implement SDI and MDI applications while using forms, dialogs, and other types of GUI components
- Produce and use specialized new GUI components
- Understand the message passing mechanism between components and threads using messaging
- Apply visual programming to software development by designing projects with menus and submenus
- Use visual programming environment to create simple visual applications
- Design, create, build, and debug Visual Basic applications.
- Explore Visual Basic's Integrated Development Environment (IDE).
- Implement syntax rules in Visual Basic programs.
- Understand the variables and data types used in program development.
- Apply arithmetic operations for displaying numeric output.
- Write and apply decision structures for determining different operations.
- Write and apply loop structures to perform repetitive tasks.
- Write and apply procedures, sub-procedures, and functions to create manageable code.
- Create one and two dimensional arrays for sorting, calculating, and displaying of data.
- Write Visual Basic programs using object-oriented programming techniques including

classes, objects, methods, instance variables, composition, and inheritance, and polymorphism.

- Write Windows applications using forms, controls, and events.

UNIT IINTRODUCTION TO IDE **15**

Customizing a form/ writing simple programs/ tool box/ creating controls/ name property/ command button/ access keys/ image controls / text boxes/ labels / message boxes/ grid/ edit tools/ variables/ data types/ strings /numbers

UNIT II FUNCTIONS AND PROCEDURES **15**

Displaying information/ determinate loops /indeterminate loops/ conditionals/ built in functions/ functions and procedures

UNIT IIIARRAYS **15**

Lists /arrays/ sorting and searching/ records/ control arrays/ combo boxes/ grid control/ projects with multiple forms/ do events and sub main/ error trapping

UNIT IVVB OBJECTS **15**

VB objects/ dialog boxes/ common controls / menus/ MDI forms / testing / debugging / optimization/ working with graphics

UNIT VFILE HANDLING **15**

Monitoring mouse activity/ file handling/ file system controls/ file system objects/com/ole / automation / DLL servers / ole drag and drop

Total No ofHours:75

TEXT BOOK

1. Gary Cornell / visual basic 6 from the ground up / TMH 2004

REFERENCE BOOK

2. Noel Jerke / visual basic complete ref / TMH 2000

15BIT008 DATABASE MANAGEMENT SYSTEM 4 0 0 4

COURSE OBJECTIVE:

- To work on data, managing data between front end and backend and to create reports.
- Provide for mass storage of relevant data,
- Make access to the data easy for the user,
- Provide prompt response to user requests for data

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Apply knowledge of database design methodology which give a good formal foundation in relational data model.
- Identify and formulate information storage and derive an information model expressed in the form of ER diagram and other optional analysis forms.
- Apply query processing techniques to automate the real time problems of databases.
- Familiar with relational DB theory and will able to write relational algebra expressions for query.
- Identify and solve the redundancy problem in database tables using normalization.
- Understand the concepts of transactions, their processing so they will familiar with broad range of database management issues including data integrity, security and recovery.
- Design, develop and implement a small database project using database tools.

- In ACTs introduction to Oracle 11g PL/SQL programming training, attendees write stored procedures, functions, packages, and triggers, and implement complex business rules with oracle 11g. They learn programming, management, and security issues of working with PL/SQL program units, Programming topics will include the built-in packages that come with Oracle, the creation of triggers, and stored procedure features.
- Develop Oracle Database Objects using Procedures, Functions, Packages
- Develop Advanced package concepts using Overloading, Forward declarations, One time procedures, Package functions restrictions, PL/SQL compilation checking, Persistent states, Package variables, Package cursors
- Produce readable output using SQL*Plus,
- Create database triggers, manage subprograms and triggers,object dependencies and manipulate and create Oracle large objects

UNIT IINTRODUCTION AND BASIC CONCEPTS 12

Introduction and Basic Concepts - Structure of DBMS - Advantages & Disadvantages - Relational and their schemes integrity rules - Relational algebra: Basic operations additional operations, relational algebraic operations. Relational Calculus: Tuple Calculus domain calculus - Physical Implementation Issues

UNIT II BASIC SQL 10

Basic SQL PLUS Reports and Commands - Building a simple report - Checking the SQLPLUS Environment - Getting Text information - Data Types - How to cut and paste String - Group Value function – Date Conversion and transformation function - Advances sub queries, other joins

UNIT III INTRODUCTION TO PL/SQL 14

An Introduction to PL/SQL - PL/SQL Overview - Declaration section - Executable Commands section - Condition logic – Loops - Exception Handlings – Triggers - Required System Privileges - Required Table Privileges - Types of triggers - Triggers – Syntax - Enabling and Disabling Triggers - Replacing and Dropping Triggers

UNIT IV SUB QUERIES WITHIN FORM CLAUSE 14

Creating a complex view - Using sub queries within form clause - Using ROLLUP, GROUPING, And CUBE - Advances use of function and variables - DECODE: Amzing power in a singe word - Creating, Dropping and Altering tables Views.

Unit V PL/SQL 12

Records – Tables – Varrays. Named Blocks: Procedures – Functions – Packages –Triggers –Data Dictionary Views.

Total No of Hours: 60

TEXT BOOKS

1. Bipin Desai "An Introduction to Daabase system", Golgotia publication NEW Delhi

2. Abraham S.HenryKorthS.Sudarshan "Database system Concepts" TMH

REFERENCE BOOKS

1. ArunMajumdar&Pritimoy, "Database Managemnet Systems"Bhattacharya, 2007, TMH.

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

15BIT009 RELATIONAL DATABASE MANAGEMENT LAB 0042

COURSE OBJECTIVE

- To inculcate knowledge on Visual Basic concepts and Programming.
- Identify the differences between the procedural languages and event-driven languages.
- To Design, create, build, and debug Visual Basic applications

COURSE OUTCOMES:

After successful completion of this course, the students should be able to:

- Understand basics of GUI programming
- Understand and learn Visual programming paradigms and database programming.

- Understand and learn SQL and PL/SQL
- Ability to develop skills of writing applications by using SQL.
- Ability to understand query optimization techniques.
- Understanding of transaction processing.
- Understand, analyze and apply common SQL statements including DDL, DML and DCL statements to perform different operations.
- Design different views of tables for different users and to apply embedded and nested queries.
- Design and implement a database for a given problem according to well-known design principles that balance data retrieval performance with data consistency.
- Design and implement a database schema for a given problem domain.
- Implement different SQL queries which will automate the real life problem related to data storage.
- Modify the database and provide different constraints by implementing techniques like PL/SQL, cursors and triggers.
- Design and build a GUI application using a 4GL.
- Gain hands-on experience which helps them in industry oriented learning.
- Get exposure to development experience of small systems through developing a mini project

1. Building Simple Applications.

2. Working with Intrinsic Controls and ActiveX Controls.

3. Application with multiple forms.

4. Application with Dialogs.

5. Application with Menus.

6. Application using Data Controls.

7. Application using Common Dialogs.

8. Drag and Drop Events.

9. Database Management.

10. Creating ActiveX Controls

Total No of Hours 60

15BIT010 COMPUTER NETWORKS 4004

COURSE OBJECTIVE

- Resource sharing is the main objective of the computer network.
- To provide the high Reliability
- To learn about communication techniques & security issues.

COURSE OUTCOMES:

After successful completion of this course, the students should be able to:

- Analyze the requirements for a given organizational structure and select the most appropriate networking architecture and technology.
- Specify and identify deficiencies in existing protocols, and then go onto formulate new better protocols.
- Apply knowledge of mathematics, probability, and statistics to model and analyze some networking protocols.
- Have a working knowledge of datagram and internet socket programming.
- Understandthe concepts and theories of networking and apply them to various situations, classifying networks, analyzing performance and implementing new technologies.
- Understand the concepts of confidentiality, availability and integrity in Information Assurance, including physical, software, devices, policies and people. Analyze these factors in an existing system and design implementations.

UNIT I INTRODUCTION 10

Introduction to Data Communication, Network, Protocols & standards and standards organizations - Line Configuration - Topology - Transmission mode - Classification of Network - OSI Model - Layers of OS1 Model.

UNIT II TRASMISSION MEDIA 12

Parallel and Serial Transmission - DTE/DCE/such as EIA-449, EIA-530, EIA-202 and x.21 interfuce - Interface standards - Modems - Guided Media - Unguided Media - Performance - Types of Error - Error Detection - Error Corrections.

UNIT III MULTIPLEXING 14

Multiplexing - Types of Multiplexing - Multiplexing Application - Telephone system - Project 802 - Ethernet - Token Bus - Token Ring - FDDI - IEEE 802.6 - SMDS - Circuit Switching - Packet Switching - Message switching - Connection Oriented and Connectionless services.

UNITIV ANALOG & DIGITAL 14

History of Analog and Digital Network - Access to ISDN - ISDN Layers - Broadband ISDN - X.25 Layers - Packet Layer Protocol - ATM - ATM Topology - ATM Protocol.

UNIT V COMMUNICATION MODES 10

Repeaters - Bridges - Routers - Gateway - Routing algorithms - TCP/IP Network, Transport and Application Layers of TCP/IP - World Wide Web.

Total No of Hours: 60

TEXT BOOK

1. Behrouz and Forouzan - Introduction to Data Communication and Networking - 2nd Edition - TMH-2005

REFERENCE BOOK

1. Jean Wairand - Communication Networks (A first Course) - Second Edition - WCB/McGraw Hill - 2003.

15BIT011 OPERATING SYSTEM 4 0 0 4

COURSE OBJECTIVE

- To understand the services provided by and the design of an operating system.
- To understand the structure and organization of the file system.
- To understand what a process is and how processes are synchronized and scheduled.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Gain in depth knowledge about the structures of the operating system, different types of operating system and functions performed by modern operating system.
- Identify and apply knowledge of various software and hardware synchronization tools for solving critical section problem in concurrent processes.
- Understand about mutual exclusion and deadlock concepts.
- Understand and analyze various disk scheduling algorithms
- Understand and apply process management and memory management concepts to solve various hardware and software problems.
- Identify various system protection and security mechanisms in order to design efficient software system by using various access control techniques.
- Understand the concepts of deadlock in operating systems and employ the deadlock avoidance techniques in multiprogramming system.
- Understand the various operating systems like UNIX and LINUX and also analyze and design various real time operating systems to automate real time problems in multidisciplinary environments.
- Know various synchronization, scheduling and memory management issues.

UNIT I OPERATING SYSTEM TYPES 12

Introduction – Multi programming – Time sharing – Distributed system – Real time system – I/O structure – Dual – Mode operation – hardware protection – General System architecture – Operating system services – System calls – System programs – System Design and Implementation, Process Management: Process concept – Concurrent process – Scheduling concepts – CPU scheduling – Scheduling Algorithms. Multiple processor scheduling.

UNIT II PROCESS MANAGEMENT 12

Process Management: Process Synchronization – Critical section – Synchronization hardware – Semaphores, classical problem of synchronization, inter process communication, deadlocks characterization, Prevention, Avoidance and Detection.

UNIT III MEMORY MANAGEMENT 12

Storage Management – Swapping – single and multiple partition allocation – paging – segmentation – paged segmentation, virtual memory – demand paging - page replacement and algorithms, thrashing, secondary storage management

UNIT IV SECONDARY STRORAGE MANAGEMENT 14

Disk structure – free space management – allocation methods – disk scheduling – performance and reliability – improvements – storage hierarchy.

UNIT V FILE MANAGEMENT 10

Files and Protection – File system organization – file operations – access methods – consistency semantics – directory structure organization – file protection – implementation issues – security – encryption.

Total No of Hours: 60

TEXT BOOK

1. A. Silberschatz, P.B. Galvin Ganga, “Operating Concepts”, 6th Edition Addison Wesley – Publishing Co., 2002

REFERENCE BOOKS

1. Deitel H.M. “An Introduction to Operating System”, Addison Wesley Publishing Co., 2003

2. Dhamd.hre Milan, “Operating System”, McGraw Hill, International Edition, 2002.
3. Tanenbaum., Operating System – Design and implementation, Prentice-Hall of India.

15BIT012 OPERATING SYSTEM LAB 0 0 4 2

COURSE OBJECTIVE

- To understand the services provided by and the design of an operating system.
- To understand the structure and organization of the file system.
- To understand what a process is and how processes are synchronized and scheduled.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Understand and apply knowledge of basic UNIX/LINUX commands to solve various software problems and to automate real time applications.
- Understand and implement the concept of process synchronization tool like semaphore to solve mutual exclusion problem in order to coordinate concurrent processes.
- Apply knowledge of process management techniques to design and solve various process synchronization problems like Producer Consumer problem, Reader Writers problem and dining philosophers’ problem.
- Compare and contrast among various CPU scheduling algorithms and apply knowledge to identify the best scheduling algorithm as per software requirement.
- Understand and apply the concepts of deadlock in operating systems to design and implement various deadlock avoidance algorithms like Banker’s algorithm used in banking system.
- Apply the concepts page replacement techniques in memory management to simulate various page replacement algorithms.

1. Inter Process Communication (IPC) using Message Queues.
2. IPC using pipes.
3. Implementations of wait and signal using counting semaphores.
4. Atomic Counter update problem.
5. Signaling processes.
6. Deadlock detection (for processes passing messages)
7. Process Scheduling: FCFS
8. Process Scheduling: Least Frequently Used.
9. Process Scheduling: Round Robin.
10. Producer-Consumer problem with limited buffers.

Total No ofHours:60

15BIT013 SOFTWARE TESTING 4 0 0 4

COURSE OBJECTIVE

- To describe the principles of system and component testing
- To describe strategies for generating system test cases
- To understand the essential characteristics of tool used for test automation

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Master the knowledge and comparison of various testing strategies.
- Master the understanding and implementation of a software development process,

- Apply software testing techniques in commercial environments and assess the adequacy of test suites using control flow, data flow, and program mutation
- Master the understanding of requirements specification documents
- Master the role of management in software development
- Master working on a team in a moderate-size software development project W
- Master the understanding of Load Testing and its Methods
- Master attributes and assessment of quality, reliability and security of software
- Identify the inputs and deliverables of the testing process and work together as a team in preparing a report
- Application of software testing techniques in commercial environments

UNIT I SOFTWARE TESTING TOOLS 12

Building a Software Testing Strategy – Software Testing Design Techniques – Software Testing Tools and Selection of Test Automation Products – Software Testing Lifecycle and Software Testing Process

UNIT II TEST PLANS 10

Testing Effort Estimation and Test Planning – Software Test Effort Estimation Technique – Predevelopment Testing Requirements and Design Phase – Best Practices in Program Phase Unit, System and Integration Testing

UNIT III ISSUES IN TESTING 13

A Case Study on Acceptance Testing – Implementation an Effective Test Management Process – Building an Effective Test Organization – Performance Issues and optimization Techniques

UNITIV TESTING STRATEGIES 11

Choosing a Load Testing Strategy – Dodging the Bullets – Validating Mission Critical Server Software for Reliability – Probing the Blind Spot –Testing in today's Business and Usability

UNIT V TESTING METRIX 14

Testing of Webbased Applications – Testing of Embedded Software System used in Aerospace Applications – Testing Application for Security – Testing Metrics, Best Practices and Benchmarks

Total No Of Hours: 60

TEXT BOOK

1. Software Testing Effective Methods, Tools and Techniques by RenuRajani and Pradeep Oak Tata McGrawHill

15BIT014 SYSTEM TESTING LAB 0 0 4 2

COURSE OBJECTIVE:

- To describe the principles of system and component testing
- To describe strategies for generating system test cases
- To understand the essential characteristics of tool used for test automation

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Learn basic concepts of software testing, for generating strategies to derive test cases for software testing.
- Conduct tests at various levels to check the flow of data and control, and to check the code after integrating.
- Understand quality of software at thread levels by identifying faults of omission and faults of commission.
- Plan and monitor the development of software systematically using software specification and design document.
- Understand Test process and continuous quality improvement

- UnderstandTest generation from requirements
- UnderstandTest generation from models and Test adequacy assessment
- Familiar in industrial application

Practical I

1.1 What is walking through review?

1.2 What is inspection review?

Practical II

2.1 Develop a Software Requirements Specification for

“Hotel Management System. / BookStore Management System”.

2.2 Develop a Software Requirements Specification for “Online ticket booking system”

Note: Analyses the system to find defects in any module and correct them.

Practical III

To generate unit testing report for Online Ticket booking system

Practical IV

Perform black box testing Hotel / Bookstore management system.

4.1 Using equivalence class partitioning method.

4.2 Using boundary value analysis (BVA) method

Practical V

Perform white box testing for Online Ticket booking system

5.1 Using branch coverage method.

5.2 Using path coverage method

a. Control Flow Graph

b. Cyclomatic Complexity

c. Independent paths

d. Test Cases table

e. Test matrix

5.3 Using Condition coverage Method. Apply “Hotel / BookStore Management system”

Practical VI

6.1 Introduction of WinRunner

6.2 Recording and Playback using WinRunner

6.3 Study GUI Checkpoints in WinRunner

6.4 Study Bitmap Checkpoints in WinRunner

6.5 Study Database Checkpoints in WinRunner

6.6 Study Text Checkpoints in WinRunner

Total No of Hours: 60

15BIT015	**MULTIMEDIA**	**4**	**0**	**0**	**3**

COURSE OBJECTIVE:

- This course gives an exposure to Multimedia and its applications.
- collaborating efficiently and effectively on teams to produce professional-caliber content for the Web.
- To gain an ability to use Photoshop.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Understand technical characteristics and performanceof multimedia system and terminals,
- Design creative approach in application ofmultimedia devices, equipment and systems,
- Interpret and analyze measurement results obtainedon the multimedia system and components,
- Describe the development process and applicationsof the multimedia systems,
- Understand the concepts of animations, shooting and video making etc.
- Work with various editing tools , modelling and sound editing tools etc.,
- Ability to plan and estimate the RFP and Bid proposals, deliver of project in CD- Rom and on World Wide Web.

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UNIT I INTRODUCTION 10

What is Multimedia**:** Definitions - CD-ROM and the Multimedia Highway - Where to use Multimedia - Introduction to MakingMultimedia: The stages of a Project - What You Need - MultimediaSkills and Training**:** The team - Macintosh and Windows ProductionPlatforms**:** Macintosh Versus PC - The Macintosh Platform - The Windows Multimedia PC Platform - Networking Macintosh and Windows Computers-Hardware Peripherals**:** Connection - Memory and Storage Devices - Input Devices – Output Hardware – Comunication Devices.

UNIT II EDITING TOOLS 13

Basic Tools**:** Text Editing and Word Processing Tools - OCR Software - Painting and Drawing Tools - 3-D Modeling and Animation Tools - Image-Editing Tools - Sound Editing Tools - Animation, Video and Digital Movie Tools Helpful Accessories - Making InstantMultimedia: Linking Multimedia Objects - Office Suites - Word Processors - Spreadsheets - Databases - Presentation Tools**.**Multimedia Authoring Tools: Types of Authoring Tools - Card-and-Page-Based Authoring Tools - Icon-Based Authoring Tools - Time-Based Authoring Tools

UNIT III MIDI 11

Text: The Power of Meaning - About Fonts and Faces - Using Text in Multimedia - Computers and Text - Font Editing and Design Tools - Hypermedia and Hypertext - Sound**:** The Power of Sound - Multimedia System Sounds - MIDI Versus Digital Audio - Digital Audio - Making MIDI Audio - Audio File Formats - Working with Sound on the Macintosh - Notation Interchange File

Format (NIFF) - Adding Sound to Your Multimedia Project - Toward Professional Sound: The Red Book Standard.

UNIT IV ANIMATION 14

Images: Making Still Images -Color - Image File Formats. Animation: The Power of Motion - Principles of Animation - Making Animations That Work -Video**:** Using Video - How Video works - Broadcast Video Standards - Integrating Computers and Television - Shooting and Editing Video - Video Tips - Recording Formats - Digital Video.

UNIT V PLANNING & COSTING 12

Planning and Costing **:** Project Planning - Estimating - RFPs and Bid Proposals **-** Designing and Producing **:** Designing - Producing - Content and Talent **:** Acquiring Content - Using Content Created by Others - Using Content Created for a Project - Using Talent -Delivering **:** Testing - Preparing for Delivery - Delivering on CD-ROM - Compact Disc Technology - Wrapping It Up - Delivering on the World Wide Web.

Total No of Hours: 60

TEXT BOOK

1. Tay Vaughan - Multimedia: Making it Work. - Fourth Edition - Tata McGraw Hill Edition - 2005.

REFERENCE BOOKS

1. Walterworth John A - Multimedia Technologies and Application - Ellis Horwood Ltd. - London – 2008..
2. John F Koegel Buford - Multimedia Systems - Addison Wesley - First Indian Reprint - 2008

15BIT016 WEB TECHNOLOGY **5 0 0 4**

COURSE OBJECTIVE

- Understand the various steps in designing a creative and dynamic website.
- They will able to write html, JavaScript, CSS and applet codes.
- They will have clear understanding of hierarchy of objects in HTML and XML.
- Finally they can create good, effective and customized websites.
- Know regarding internet related technologies. Systematic way of developing a website.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Apply the knowledge of the internet and related internet concepts that are vital in understanding web application development and analyze the insights of internet programming to implement complete application over the web.
- Understand, analyze and apply the role of mark-up languages like HTML, DHTML, and XML in the workings of the web and web applications.
- Automate the real time problems by developing & analyzing a web project and identify its elements and attributes in comparison to traditional projects.
- Design static pages in more organized format by using style sheets and techniques like AJAX for making its content dynamic.
- Use web application development software tools i.e. Ajax and XML etc. and identify the environments currently available on the market to design web sites.
- Understand, analyze and build dynamic web pages using client side programming like VBScript and JavaScript and also develop the web application using ASP.NET and JSP.
- Understanding the impact of web designing in the current market place where everyone use to prefer electronic medium for shopping, commerce, fund transfer and even social life also.

UNIT I INTRODUCTION **15**

Internet Basic – Introduction to HTML – List Creating Table – Linking document – Frames - Graphics to HTML Doc – Style sheet – style sheet basic – Add style to document – Creating style sheet rules – Style sheet properties – Font – Text – List – Color and Background color – Box – Display properties.

UNIT II JAVASCRIPT **15**

Introduction to JavaScript – Advantage of JavaScript – JavaScript syntax – Data type – Variable – Array – Operator and Expression – Looping Constructor – Function – Dialog box.

UNIT III DOC **15**

JavaScript document object model – Introduction – object in HTML – Event Handling – Window object – Document object – Browser Object – Form Object – Navigator object – Screen object – Build in object – User defined object – Cookies.

UNIT IV ASP.NET **15**

ASP.NET Languages structure – Page event, Properties& Compiler Directives. HTML server controls – Anchor, Tables, Forms, Forms, Files. Basic web server Controls – Label, Textbox, Button, Image, Links, Check & Radio button, Hyperlink. Data list Web server controls – Check box list, Radio button list, Drop down list, List box, and Data grid, Repeater.

UNIT V E.MAIL ISSUES **15**

Request and Response Objects, Cookies, Working with Data – OLEDB connection class, Command class transaction class, data adaptor class, data set class. Advanced Issues – Email, Application Security – Authentication, IP Address, Secure by SSL &Client Certificates.

Total No of Hours: 60

TEXT BOOKS

1. Bayross, Web Enable Commercial Application Development Using HTML, DHTML, JavaScript, Perl CGI, BPB Publications.
2. Jaworski, Mastering JavaScript, BPB Publications, 2006

REFERENCE BOOKS

1. T. A Powell, complete Reference HTML (Third Edition), TMH, 2002.
2. G. Buczek, ASP.NET Developers Guide, TMH, 2002.

15BIT017 WEB TECHNOLOGY LAB 0 0 4 2

COURSE OBJECTIVE:

- Understand the various steps in designing a creative and dynamic website.
- They will able to write html, JavaScript, CSS and applet codes.
- Finally they can create good, effective and customized websites.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Identify, formulate and analyze problems as well as identify the computing requirements appropriate to their solutions.
- Understand and analyze a web page and identify its elements and attributes.
- Develop web pages using mark-up languages like HTML, DHTML and style sheets for making it more presentable to the user.
- Develop dynamic web pages using client side programming and server side programming.
- Develop interactive web applications using ASP.NET Framework.
- Develop XML documents and XML Schema to formulate the web services.

1. Create a simple page introducing you, how old you are, what you do, what you like and dislike. Modify the introduction to include a bullet list of what you do and put a list on the 5 things you like most and dislike is numbered lists. Create another page about your favorite hobby, and link it to (and from) your main page. Center something, and put a quote on one of your pages.
2. Put an existing image on a web page. Create a table, use a heading and at least one use of row span / col span. Colour a page and some text within the page. Link to another site.
3. Create a new file called index.html.
4. Put the normal HTML document structure tags in the file.
5. Give a title.
6. At the bottom of the page (i.e. the last thing between the body tags) put the following:
7. A horizontal rule.
8. A link to your email-address (with your name between the tag); remember to put the link to your email address within address tags.
9. A line break.
10. The Date (I have this same structure at the bottom of this page)
11. Above this Block (which is called the footer), put a title in heading tags.
12. Add some text describing you. (You can split this into multiple headings and paragraphs if you want).
13. Write a script to create an array of 10 elements and display its contents.

Total No of Hours: 60

15BIT018 PRE-PROCESSOR HYPERTEXTPROGRAMMING

4	**0**	**0**	**4**

COURSE OBJECTIVE:

- Develop applications using PHP.
- Learn more server side scripting.
- Used to develop effective web based application.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Understand process of executing a PHP-based script on a webserver.
- Be able to develop a form containing several fields and be able to process the data provided on the form by a user in a PHP-based script.
- Understand basic PHP syntax for variable use, and standard language constructs, such as conditionals and loops.
- Understand the syntax and use of PHP object-oriented classes.
- Understand the syntax and functions available to deal with file processing for files on the server as well as processing web URLs.
- Understand the paradigm for dealing with form-based data, both from the syntax of HTML forms, and how they are accessed inside a PHP-based script.

UNIT I INTRODUCTION 12

Introduction – Basic features of PHP – Evolution of PHP – HTML concepts – Introducing Variables – Holding Data – Constants – Introducing Operators.

UNIT II CONTROL STRUCTURES 12

Introduction to Control Structures – Using Conditional Statements – Using Loops in PHP – Introduction to Functions – Using Functions. Accessing PHP and HTTP data – Links – HTML web forms.

UNIT IIIARRAY 12

Introducing Arrays – Create Arrays – Looping through Arrays – Manipulating Arrays – Sorting Arrays – Designing PHP program logic: Problem statement – writing pseudo code – Boolean Logic.

UNIT IVTESTING & DEBUGGING 14

Testing and Debugging – Debugging PHP script – Debugging and handling errors in PHP5 – Form validation.

UNIT VWORKING WITH DATA **10**

Retrieving data using PHP – SQL statement for retrieving Data – Inserting records using PHP – Updating and Deleting Records in tables.

Total No of Hours: 60

TEXT BOOK

1. "Beginning PHP5", Dave W.Mercer, Allan Kent, Steven D. Nowicki, 2004 Edition, Wiley Publication.

REFERENCE BOOK

1. "PHP- A Beginner's Guide", Ashok Appu, Wiley Publication.

15BIT019 PRE PROCESSOR HYPERTEXT PROGRAMMING LAB

0 0 4 2

COURSE OBJECTIVE:

- Develop applications using PHP.
- Learn more server side scripting.
- Used to develop effective web based application.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Create PHP scripts that use object-oriented PHP, implement business logic within the database, use stored procedures and triggers
- Gain the PHP programming skills needed to successfully build interactive, data-driven sites
- Use the MVC pattern to organize code
- Test and debug a PHP application
- Work with form data

- Use cookies and sessions
- Work with regular expressions, handle exceptions, and validate data
- Create and deploy a portable web-based system.
- Test and debug object-oriented PHP scripts

1. To create login page with check username Password available on database.
2. To write ARRAY program with sorting program on PHP.
3. To write PHP functions with and without parameters.
4. To design web page for student registration page.
5. Create Registration Form with validation.
6. To implement the Session Management.
7. To implement the COOKIES concepts in your web site?
8. To implement E-mail concept on PHP.
9. Display the student information on web site UPDATE, DELETE the information.
10. Create web page for REQUEST and RESPONSE object.
11. To insert the image and display Images randomly.
12. To create web site for File Upload and File Download options.

Total No of Hours: 60

15BIT020 OBJECT ORIENTED ANALYSIS AND DESIGN

5 0 0 4

COURSE OBJECTIVE:

- Understand basic OO concepts such as types, inheritance & interfaces, & know how to use them
- Understand OO analysis and design and its difference from structured design
- Develop a gut feel for OO do's and don'ts
- Utilize OO architectural and design patterns

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Use an object-oriented method for analysis and design
- Analyze information systems in real-world settings and to conduct methods such as interviews and observations
- Have a general understanding of a variety of approaches and perspectives of systems development, and to evaluate other IS development methods and techniques
- Know techniques aimed to achieve the objective and expected results of a systems development process
- Know different types of prototyping
- Know how to use UML for notation
- Familiar with the application of the Unified Modeling Language (UML) towards analysis and design,
- Master common patterns in OO design and implement them,
- Familiar with alternative development processes,

UNIT I INRODUCTION 15

System Development – Object Basics – Development Life Cycle – Methodologies – Patterns – Frameworks – unified Approach – UML.

UNIT II USE CASE MODEL 13

Use – Case Models – Object Analysis – Object relations – Attributes – Methods – Class and Object responsibilities – Case Studies.

UNITIII DESIGN AXIOMS 16

Design Processes – Design Axioms – Class Design – Object Storage – Object Interoperability – Case Studies.

UNIT IV USER INTERFACE DESIGN 14

User Interface Design – View Layer Classes – Micro-Level Processes – View Layer Interface – Case Studies.

UNIT V QUALITY ASSURANCE TESTS 17

Quality Assurance Tests – Testing Strategies – Object orientation on testing – Test Cases – test Plans – Continuous testing – Debugging Principles – System Usability – Measuring User Satisfaction – Case Studies.

Total No of Hours: 75

TEXT BOOK

1. Ali Bahrami "Obiect Oriented Systems Development" – McGraw Hill International Edition – 2006

REFERENCE BOOK

1. R.S. Pressman ,"Software Engineering " Fourth Edition – McGraw Hill International Edition – 2003.

DISCIPLINE SPECIFIC ELECTIVE (DSE)

15BIT101 DATA STRUCTURES 5 0 0 4

COURSE OBJECTIVE:

- To be familiar with writing recursive methods.
- To be familiar with basic techniques of algorithm analysis
- Master the implementation of linked data structures such as linked lists and binary trees

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Apply the knowledge of data structure concepts and the various algorithms while designing and developing software and some hardware.

- Analyze the complexity and correctness of the new algorithms.
- Choose the appropriate data structure and algorithm design method for a specified application.
- Understand and analyze elementary algorithms: sorting & searching
- Analyze a problem and determine the appropriate data structure for the problem
- Apply and implement learned algorithm design techniques and data structures to solve problems.
- Understand and apply fundamental algorithmic problems including Tree traversals, Graph traversals, and shortest paths.
- Write complex applications using structured programming methods.

UNIT I INTRODUCTION 15

Introduction: Basic Terminology – elementary data organization – Data Structures – Data Structure Operations – Algorithms – Complexity of Algorithms. Array: Linear array – Representation of Linear Array – Traversing Linear Array – Inserting and Deleting – Bubble Sort – Linear Search – Binary Search.

UNIT II STACK & QUEUE 15

Stack: Representation of Stack – Operations on Stack – PUSH – POP – Applications of Stack – Infix to postfix expression – Evaluation of Postfix expression – Recursion - Tower of Hanoi – Quick Sort. Queue: Representation of Queue – Applications of Queue – D Queue – Priority Queue – Circular Queue.

UNIT III LINKED LIST 13

Singly Linked List: Operation on Singly Linked List – Applications of Singly Linked List – Polynomial Addition. Doubly Linked List: Operations on Doubly Linked List.

UNITIV TREE 17

Trees: Basic Terminology – Binary Tree – Representation of Binary Tree – Binary Tree Traversal – Binary Search Tree – Operations on Binary Search Tree – Heap Sort.

UNIT V GRAPH 15

Graph – Terminology – Representation of Graph – Applications of Graph: Shortest Path algorithm – Operations of Graph – Graph Traversal – Topological Sorting. Hashing Technique.

Total No of Hours:75

TEXT BOOK

1. B.S. Gottfried, Schaum's Outline Series, Data structures using C++,Tata McGraw-Hill,. 2006.

REFERENCE BOOK

1. Ellis Horowitz**"**Fundamentals of Data Structures", -2008.

15BIT102 COMPUTER ALGORITHM 5 0 0 4

COURSE OBJECTIVE:

- To learn about introductory algorithms and data structures.
- To learn about sorting and searching algorithms.
- To categorize the efficiency in time and memory use, linked list and tree data structures, hash tables, stacks and queues.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Apply mathematical preliminaries to analysis and design the stages of different types of algorithms.
- Analyze worst-case running times algorithms using asymptotic methods by applying knowledge of mathematics for programs and software.
- Apply standard algorithms of Sorting, Searchingand finding shortest path to identify and formulate the software based real life problems.

- Design and modify graph algorithms and analysis them to find different types of shortest paths solutions for real life problems like TSP.
- Recognize the general principals and good algorithm design techniques (Dynamic and Greedy) for developing efficient algorithms driven solutions and design relevant software systems.
- Relate the concepts of NP Completeness for analyze and understand the complexity of real life problems.

UNIT I INTRODUCTION 15

Introduction and Divide and Conquer: Algorithm –Complexity analysis-Introduction to random algorithms-General Method-Finding maximum and minimum-Strassen's matrix multiplication-Quick sort –Selection sort.

UNIT II DYNAMIC PROGRAMMING METHODS 15

Greedy Method: General Method –Tree vertex splitting-Job sequencing with deadlines –Shortest Path-Knapsack problem. Dynamic Programming: General Method-multistage graphs-String Editing.

UNIT III BACK TRACKING METHODS 13

Back Tracking: General Method –N Queen's problem-Sum of Subsets-Graph Coloring- Depth First Search-Breadth First Search.

UNIT IV TRAVELLING SALES MAN PROBLEM 17

Branch and bound: General Method- Assignment problem -0/1 Knapsack Problem-Travelling Salesperson problem.

UNIT V KNAPSACK PROBLEM 13

P & NP problems – NP-complete problems – Approximation algorithms for NP-hard problems – Traveling salesman problem – Knapsack problem.

Total No of Hours: 75

TEXT BOOK

1. E.HorowitzS.Sahni and S.Rajasekaran-Computer Algoritms-Galgotia-1999.

REFERENCE BOOK

1. G.Brassard and P.Bratley-Fundamentals of Algorithms-PHI-1997.

15BIT103 INFORMATION TECHNOLOGY 5 0 0 4

COURSE OBJECTIVE:

- Students maximize the value of information technology.
- Deliver leading-edge information technology and biomedical engineering products, services, support, training and education.
- Maintain reliable, up-to-date technological infrastructures and position support organizations to meet changing service demands.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Understand the basics of computer system, its architecture, database and Networks.
- Understand the basic concepts, terminology of IT and familiar with the use of IT tools.
- Learn and explore new IT techniques in various applications and to identify the issues related to security
- Learn the working knowledge of hardware and software of computer.
- Learn the use of database such as Microsoft access.
- Familiarize the students with the network devices and the internet.

UNITI INTRODUCTION 15

Introduction to computers- types of computers-characteristics-Classification of digital computer systems-Microcomputers-minicomputers-supercomputers-functions and components of computers-Central processing unit.

UNIT II NUMBER SYSTEM 17

Number system-Decimal number system-Binary number system-Complements-Gray code-ASCII code-Bits, Bytes and words-Memory unit-ROM,RAM,PROM,EPROM,EEPROM-Auxiliary storage devices-Magnetic tape- hard disk, floppy disk-Input devices-Output devices.

UNIT III COMPUTER NETWORKS 13

Computer networks- Overview of a network- Communication processors-Modems-Message Switcher-Communication Media-Types of network-network topology-Introduction to Multimedia-Applications of Multimedia-Multimedia tools.

UNIT IV DBMS 15

Introduction to Management system-History of information-Quality of information – Characteristics of DBMS-Types of DBMS-Database design-data Normalization-Relationship-first normal form-second normal form-third normal form.

UNIT V INTERNET 15

Internet and World wide web-Introduction-Internet access-Internet basics-Internet Protocols-Internet Addressing-WWW-HTML- HTML Tags-Web browsers-Searching web-Introduction to E-mail –Mailing basics-E-mail ethics-Advantages and disadvantages-Useful e-mail services-Mailing list.

Total No of Hours: 75

TEXT BOOK

1. Fundamentals of Information Technology-Alexis leon& Mathews leon,Vikas publication second edition, 2008.

REFERENCE BOOK

1. Fundamentals of Information Technology-Dr. Durgesh pant, Magesh kumar Sharma, Lakshmi publications, second edition, 2008.

15BIT104 DIGITAL LOGIC FUNDAMENTALS 5 0 0 4

COURSE OBJECTIVE:

- Introduce the basic concept of digital and binary systems
- Give students the concept of digital logic design
- Give students the basic tools for the design and implementation of digital modules and subsystems
- Reinforce theory and techniques taught in the classroom through project and laboratory assignments.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Have a thorough understanding of the fundamental concepts and techniques used in digitalelectronics.
- Understand and examine the structure of various number systems, codes and its application indigital design.
- Understand, analyze and design various combinational and sequential circuits.
- Develop skill to build, and troubleshoot digital circuits
- Apply the basic postulates of Boolean algebra and shows the correlation between Boolean expressions
- Apply the methods for simplifying Boolean expressions
- Understand the conceptof flipflops and types of flipflops , counters memories, programmable logic devices, Memory unit, Accumulatoranddigital ICs

UNIT I NUMBER SYSTEM 17

Number systems – Conversion from one number to another – Compliments – Binary codes – Binary logic – Logic gates – Truth tables. Boolean algebra – Axioms – Simplification of Boolean functions – Karnaugh Map method (up to 5 variables) – Tabulation method.

UNIT II COMBINATIONAL CIRCUIT 13

Adders – Sub tractors – Code Converter – Multilevel NAND and NOR circuits – Binary parallel Adder – Decimal Adder - Decoders – Encoders – Multiplexes – DE multiplexer – Design of circuits using Multiplexers/Decoders.

UNIT III SEQUENTIAL CIRCUIT 15

Flip Flops – RS, JK, D and T Flip Flops –Excitation Table - Registers – Shift Registers – Counters – Ripple Counters – Synchronous Counters – Design of Counters.

UNIT IV MEMORY UNIT 15

Memory Unit – Bus Organization – ALU – Design of ALU – Status Register – Effects of Output carry – Microprogramming – Design of Specific Arithmetic Circuits.

UNIT V ACCUMULATOR 15

Accumulator – Design of Accumulator – Computer configuration – Instruction and Data formats – Instruction sets – Timing and Control – Execution of instruction – Design of computer – Hardwired control – PLA Control and Microprogram control.

Total No of Hours: 75

TEXT BOOK

1. M.M. Mano, Digital Logic Computer Design, Pearson Education.

REFERENCE BOOKS

1. Givone, 2002, Digital Principles Design, Tata McGraw Hill, New Delhi.
2. V. Rajaraman, 2002, Fundamental of Computers, Third Edition, PHI, New Delhi.
3. T.C. Bartee, 1991, Computer Architecture and Logical Design, Mc Graw Hill.

15BIT105 COMPUTER ARCITECTURE 5 0 0 4

COURSE OBJECTIVE:

- To have a thorough understanding of the basic structure and operation of a digital computer
- To discuss in detail the operation of the arithmetic unit including the algorithms & implementation of fixed-point and floating-point addition, subtraction, multiplication & division.
- To study the different ways of communicating with I/O devices and standard I/O interfaces.
- To study the hierarchical memory system including cache memories and virtual memory.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Understand the internal functioning of CPU that includes analyzing performance of computer system using performance equations.
- Identify the basic components and design of a computer, including CPU, memories, and input/output units
- Make use of the binary number system and apply knowledge of mathematics to perform basic arithmetic operations performed by the processor for computation.
- Identify, study and optimize various problems based on memory design and performance issues
- Understand the organization of a modern computer system and relate them to real examples implemented in commercially successful projects.
- To develop independent learning skills and to learn more about different computer architectures and hardware using modern tools.
- Identify the issues involved in the instruction execution and various stages of instruction life stage
- Identify the issues related to performance improvement

- Distinguish performance tradeoff between different memory units and instruction sets
- Design hardware and software components by studying hardwired and micro programmed control techniques of designing processor.

UNIT I INTRODUCTION 15

Functional units - Basic operational concepts - Bus structures -Software performance – Memory locations and addresses – Memory operations – Instruction and instruction sequencing – Adressing modes – Assembly language – Basic I/O operations – Stacks and queues.

UNIT II SIGNED NUMBERS 15

Addition and subtraction of signed numbers – Design of fast adders – Multiplication of positive numbers - Signed operand multiplication and fast multiplication – Integer division – Floating point numbers and operations.

UNIT III INSTRUCTION SET 15

Fundamental concepts – Execution of a complete instruction – Multiple bus organization – Hardwired control – Microprogrammed control - Pipelining – Basic concepts – Data hazards – Instruction hazards – Influence on Instruction sets – Data path and control consideration – Superscalar operation.

UNIT IV RAM & ROM 15

Basic concepts – Semiconductor RAMs - ROMs – Speed - size and cost – Cache memories - Performance consideration – Virtual memory- Memory Management requirements

UNIT V BUS 15

Accessing I/O devices – Interrupts – Direct Memory Access – Buses – Interface circuits – Standard I/O Interfaces (PCI, SCSI, and USB).

Total No of Hours : 75

TEXT BOOK

1. Carl Hamacher, ZvonkoVranesic and SafwatZaky, 5th Edition "Computer Organization", Tata McGraw Hill,2008

REFERENCE BOOKS

1. William Stallings, "Computer Organization and Architecture – Designing for Performance", 6th Edition, Pearson Education, 2003.
2. David A.Patterson and John L.Hennessy, "Computer Organization and Design: The hardware / software interface", 2nd Edition, Morgan Kaufmann, 2002.
3. John P.Hayes, "Computer Architecture and Organization", 3rd Edition, McGraw-Hill, 1998.

15BIT106 MANAGEMENT INFORMATION SYSTEM 50 0 4

COURSE OBJECTIVE:

- Explain the importance of Organization.
- Describe the implementation & evaluation of information system.
- Explain the various operations performed inside an organization.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Understand the environment of organizations.
- Understand the skills in decision making and information needs.
- Understand the business and technical dimensions of information.
- Understand how to apply leadership skills and competencies in business situations
- Analyze, gather requirements, and design systems.
- Understand major steps in the design and implementation phases of the system development
- Understand how to collect and prepare the data.
- Understand major functional areas of Business

- Understand the concept of computer and manual systems
- Interpret how to use information technology to solve business problems

UNIT I ORGANISATION 15

It's Manager, Structure and activities – Introduction – The environment of organizations – Information flows – Information needs and sources of information – Types of management decisions and information need – Business and Technical Dimensions of information.

UNITII SYSTEM ANALYSIS AND DESIGN 15

The work of system analyst study – System design – Data Collection and Preparation – Detailed system design – Implementation – Evaluation and maintenance of MIS – Pitfalls in MIS development.

UNITIII FUNCTIONAL MANAGEMENT INFORMATION SYSTEM 15

Production information system – Marketing information system – Accounting Information System – Financial Information System – Personnel Information System. Interrelationship of Functional Management Information Systems.

UNITIV FUNDAMENTALS OF COMPUTER SYSTEMS 15

General characteristics of Computer Information System: The importance of Computer – Types of Computers – Information systems – C.P.U. – I/O devices, Computer Software – Operating systems – Programming language – Application software. Manual system – Computer system.

UNIT V PURCHASE 15

Source and selection: Computer purchase – Computer rental from the manufacturer – Computer lease from a third party – Acquisition of a used Computer – Computers Service Centers – Time Sharing Companies – Facilities Management Companies – The criteria for choice computer – System Selection – Acquiring a Small Business Computer – Source Selection.

Total No of Hours:75

TEXT BOOKS

1. Steven Alter, Information Systems – A Management Perspective Addison Wesley.
2. James A O'Brein Management Information System Tata Mcgraw Hill New Delhi

REFERENCE BOOK

1. Kenneth C. Laudon and Jane Price Laudon Management Information Systems managing the digital firm, Pearson Education, Asia.

15BIT107 COMPUTER GRAPHICS 3 0 0 3

COURSE OBJECTIVE:

1. Know and be able to describe the general software architecture of programs that use 3D computer graphics.
2. Know and be able to discuss hardware system architecture for computer graphics. This includes, but is not limited to: graphics pipeline, frame buffers, and graphic accelerators/co-processors.
3. Know and be able to use a current 3D graphics API (e.g., OpenGL or DirectX).
4. Know and be able to use the underlying algorithms, mathematical concepts, supporting computer graphics.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Use the mathematical concepts, supporting computer graphics- Composite 2D-3D transformations, Hidden surface detection/ removal and various graphical algorithms
- Analyze and implement interactive graphics applications in programming language using one or more graphics application programming interfaces.

- Design the new algorithm for various graphics shapes e.g. ellipse, hyperbola, triangle etc.
- Use various graphical tools and software's used in 3D Graphics API (e.g. OpenGL or DirectX).
- Know that how geometrical transformation and computer graphics can apply in multidisciplinary field of engineering.
- Discuss hardware system architecture for computer graphics- graphics pipeline, frame buffers, and graphic accelerators/co-processors.

UNITI INTRODUCTION **12**

Overview of Graphics System - Bresenham technique – Line Drawing and Circle Drawing Algorithms - DDA - Line Clipping - Text Clipping.

UNITII 2D TRANSFORMATIONS **12**

Two dimensional transformations – Scaling and Rotations - Interactive Input methods - Polygons - Splines – Bezier Curves - Window view port mapping transformation.

UNIT III 3D TRANSFORMATIONS **12**

3D Concepts - Projections – Parallel Projection - Perspective Projection – Visible Surface Detection Methods - Visualization and polygon rendering – Color models – XYZ-RGB-YIQ-CMY-HSV Models - animation – Key Frame systems - General animation functions - morphing.

UNIT IV OVERVIEW OF MULTIMEDIA **12**

Multimedia hardware & software - Components of multimedia – Text, Image – Graphics – Audio – Video – Animation – Authoring.

UNTI V MULTIMEDIA SYSTEMS AND APPLICATIONS **12**

Multimedia communication systems – Data base systems – Synchronization Issues – Presentation requirements – Applications – Video conferencing – Virtual reality – Interactive video – video on demand

Total No of Hours:60

TEXT BOOKS

1.Hearn D and Baker M.P, "Computer graphics – C Version", 2nd Edition, Pearson Education, 2004(unit 1, 2 & 3)

2.Ralf Steinmetz, Klarasteinmetz, "Multimedia Computing, Communications and Applications", Pearson education, 2004 (Unit 4 & 5)

REFERENCE BOOKS

1. Siamon J. Gibbs and Dionysios C. Tsichritzis, "Multimedia programming", Addison Wesley, 2004.
2. John Villamil, Casanova and LeonyFernanadez, Eliar, "Multimedia Graphics", PHI, 2003.

15BIT108 SOFTWARE ENGINEERING 3 0 0 3

COURSE OBJECTIVE:

- Be employed in industry, government, or entrepreneurial endeavors to demonstrate professional advancement through significant technical achievements and expanded leadership responsibility.
- Demonstrate the ability to work effectively as a team member and/or leader in an ever-changing professional environment.
- Progress through advanced degree or certificate programs in computing, science, engineering, business, and other professionally related fields.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Identify, formulate, analyze, and solve problems, as well as identify the computing requirements appropriate to their solutions.

- Communicate effectively with a range of audiences.
- Design, implement, and evaluate software-based systems, components, or programs of varying complexity that meet desired needs, satisfy realistic constraints, and demonstrate accepted design and development principles.
- Apply knowledge of computing, mathematics, science, and engineering appropriate to the discipline, particularly in the modeling and design of software systems and in the analysis of tradeoffs inherent in design decisions.
- Use current techniques, skills, and tools necessary for professional practice.
- Understand ability to engage in life-long maintenance and continuing Software development.

UNIT I INTRODUCTION 12

Introduction to Software Engineering: Definitions – Size Factors- Quality and Productivity Factors – Managerial Issues- Planning a software Project: Defining the Problem – Developing a Solution – Strategy – Planning the Development Process – Planning an Organization Structure – Other Planning Activities.

UNIT II SOFTWARE COST ESTIMATION 12

Software cost factors – Software Cost Estimation Techniques – Staffing – Level Estimation Estimating Software Maintenance Costs – The Software Requirements Specification – Formal Specification Techniques – Languages and Processors for Requirements Specification.

UNIT III SOFTWARE DESIGN: 12

Fundamental Design Concepts – Modules and Modularization Criteria – Design Notations – Design Techniques – Detailed Design Considerations – Real-Time and Distributed System Design – Test Plans – Milestones, Walkthroughs, and Inspections.

UNIT IV IMPLEMENTATION ISSUES: 10

Structured Coding Techniques – Coding Style – Standards and Guidelines – Documentation guidelines – Type checking – Scooping Rules – Concurrency Mechanism.

UNIT V QUALITY ASSURANCE 14

Quality Assurance – Walkthroughs and Inspections – Static Analysis – Symbolic Execution – Unit Testing and Debugging – System Testing – Formal Verification: Enhancing Maintainability during Development – Managerial aspects of Software Maintenance – Source Code Metrics – Other Maintenance Tools and Techniques.

Total No of Hours:60

TEXT BOOK

1. R. S. Pressman, 2005, Software Engineering a Practitioner's approach, 6th Edition, Tata McGraw-Hill, New Delhi.

REFERENCE BOOKS

1. Sommerville, 2001, Software Engineering, 6th Edition, Addison Wesley, Boston.
2. Rajib Mal, 2005, -Fundamental of Software engineering, 2 ND Edition, PHI, New Delhi.
3. N. E. Fenton, S. L. Pfleenger, 2004, Software Metrics, Thomson Asia, Singapore.

15BIT109 SOFTWARE PROJECT MANAGEMENT 3 0 0 3

COURSE OBJECTIVE:

- A basic knowledge of software project management principles.
- The ability to come up with a project schedule and assign resources.
- Choose an appropriate project development methodology (e.g. waterfall, spiral …).
- Identify project risks, monitor and track project deadlines. Examine the software project management principles in real life scenarios.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Employ analytical and modern project development methodology for the process of project management in delivering successful Real time IT projects.

- Evaluate a project to develop the scope of work, provide accurate cost estimates, software development size, effort, and schedule and network diagram for new program proposals or enhancements to existing Software.
- Understanding and using the risk management analysis techniques that identify the factors that put a project at risk and to quantify the likely effect of risk on project timescales.
- Identifying the resources required for a project and to produce a work plan and resource Schedule.
- Adapt to the changing demands in the workplace and able to perform increasingly complex tasks, as well as tasks outside a field of expertise.
- Focus on communication and its challenges in business contexts by effectively participating in team-based activities.

UNIT I INTRODUCTION 12

Introduction to Competencies - Product Development Techniques - Management Skills - Product Development Life Cycle - Software Development Process and models - The SEI CMM - International Organization for Standardization.

UNIT II PROJECT MODEL 14

Managing Domain Processes - Project Selection Models - Project Portfolio Management - Financial Processes - Selecting a Project Team - Goal and Scope of the Software Project - Project Planning - Creating the Work Breakdown Structure - Approaches to Building a WBS - Project Milestones - Work Packages - Building a WBS for Software.

UNTI III COCOMO MODEL 12

Tasks and Activities - Software Size and Reuse Estimating - The SEI CMM - Problems and Risks - Cost Estimation - Effort Measures - COCOMO: A Regression Model - COCOMO II - SLIM: A Mathematical Model - Organizational Planning - Project Roles and Skills Needed.

UNTI IV PERT & CPM 10

Project Management Resource Activities - Organizational Form and Structure - Software Development Dependencies - Brainstorming - Scheduling Fundamentals - PERT and CPM - Leveling Resource Assignments - Map the Schedule to a Real Calendar - Critical Chain Scheduling.

UNIT V QUALITY ASSURANCE 12

Quality: Requirements – The SEI CMM - Guidelines - Challenges - Quality Function Deployment - Building the Software Quality Assurance - Plan - Software Configuration Management: Principles - Requirements - Planning and Organizing - Tools - Benefits - Legal Issues in Software - Case Study.

Total No of Hours:60

TEXT BOOK

1. Robert T. Futrell, Donald F. Shafer, Linda I. Safer, “Quality Software Project Management”, Pearson Education, Asia, 2002.

REFERENCE BOOKS

1. PankajJalote, “Software Project Management in Practice”, Addison Wesley, 2002.

2. Hughes, “Software Project Management, 3/E”, Tata McGraw-Hill, 2004.

15BIT110 MICROPROCESSOR & ITS APPLICATION 3 0 0 3

COURSE OBJECTIVE:

- To develop an in-depth understanding of the operation of microprocessors and microcontrollers, machine language programming & interfacing techniques.
- The student will learn the internal organization of some popular microprocessors/microcontrollers.
- The student will learn hardware and software interaction and integration.
- The students will learn the design of microprocessors/microcontrollers-based systems.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Understand the architecture of 8085.
- Understand the basic concepts of interfacing memory and peripheral devices to a microprocessor.
- Impart the knowledge about the instruction set.
- Understand multi core processor and its advantages.
- Write assembly language program in 8085 for various application.
- Understand the basic idea about the data transfer schemes and its applications.
- Understand the techniques for faster execution of instructions to improve the speed of operations and enhance performance of microprocessors.
- Understand the conversions about BCD, Binary, Hex, ASCII, BCD Addition, BCD Subtraction, Multiplication and Division.
- An in-depth knowledge of applying the concepts on real- time applications.

UNIT I INTRODUCTION 14

Introduction to Micro Computers, Microprocessors and Assembly Languages – Microprocessor architecture and its operations – 8085 MPU – 8085 Instruction set and classifications.

UNIT II TECHNIQUES 15

Writing assembly levels programs – Programming techniques such as looping, counting and indexing addressing nodes – Data transfer instructions – Arithmetic and Logic operations – Dynamic debugging.

UNIT III COUNTERS/TIME DELAYS 14

Counters and Time delays – Hexadecimal counter – Modulo 10 counter – pulse Timings for flashing lights – Debugging counter and time delay program – stack – Subroutine – conditional call and return instructions.

UNIT IV CONVERSIONS 16

BCD to Binary and Binary to BCD conversions – BCD to HEX and HEX to BCD conversions ASCII to BCD and BCD to ASCII conversions – BCD to seven segment LED Code conversions – Binary to ASCII and ASCII to Binary conversions – Multibyte Addition – Multibyte subtraction – BCD addition – BCD Subtraction – Multiplication and Division.

UNIT V INTERRUPT 16

Interrupt – Implementing interrupts – Multiple interrupt – 8085 – trap – Problems on implementing 8085 interrupt – DMA – Memory interfaces – Ram & Rom – I/O interface – Direct I/O – Memory mapped I/O.

Total No of Hours: 75

TEXT BOOK

1. R.S. Gaonkar, "Microprocessor Architecture, programming and Application with 8085/8085A", Wiley Eastern Limited, 2000.

REFERENCE BOOK

1.Mathur, "Introduction to Microprocessor", Third Edition, Tata McGraw- Hill Publishing Co.

15BIT111 DATA MINING **5 0 0 3**

COURSE OBJECTIVE:

- Understand data mining principles and techniques.
- Building basic terminology. Describing and demonstrating basic data mining algorithms, methods, and tools.
- Learning how to gather and analyze large sets of data to gain useful business understanding.
- Learning how to produce a quantitative analysis report/memo with the necessary information to make decisions.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Understand importance of abstraction of Knowledge from unstructured sources at sufficient level to be able to keep upto date and converse with computing professionals.
- Synthesis of information from a variety of different sources and understands issues surrounding the integration theory of information collected from these sources.
- Use of high level operational skills and real world case studies for knowledge discovery and data warehousing based principles.
- Understand stages in building a Data Warehouse
- Apply preprocessing techniques for data cleansing
- Analyze multi-dimensional modeling techniques
- Analyze and evaluate performance of algorithms for Association Rules
- Analyze Classification and Clustering algorithms
- Understand the areas of probability, statistics and machine learning algorithms which underpin the knowledge discovery enterprise.
- Design data mining and data warehousing systems and solutions to meet user requirements and specifications.

- Focus on design and security issues, architecture and network technologies for building, deploying and managing data warehouse, data mining, data visualization and decision support computing systems.
- Develop skills to write queries using DMQL
- Extract knowledge using data mining techniques
- Adapt to new data mining tools.
- Explore recent trends in data mining such as web mining, spatial-temporal mining

UNIT I INTRODUCTION 15

Introduction: Data Mining tasks – Data Mining versus Knowledge Discovery in Data bases – Relational databases – Data warehouses – Transactional databases – Object oriented databases – Spatial databases – Temporal databases – Text and Multimedia databases – Heterogeneous databases - Mining Issues – Metrics – Social implications of Data mining.

UNTI II DATA PREPROCESSING 13

Data Preprocessing: Why preprocess the data – Data cleaning – Data Integration – Data Transformation – Data Reduction – Data Discretization.

UNIT III DATA MINING TECHNIQUES 17

Data Mining Techniques: Association Rule Mining – The Apriori Algorithm – Multilevel Association Rules – Multidimensional Association Rules – Constraint Based Association Mining.

UNIT IV CLASSIFICATION & PREDICTION 15

Classification and Prediction: Issues regarding Classification and Prediction – Decision Tree induction – Bayesian Classification – Back Propagation – Classification Methods – Prediction – Classifiers accuracy.

UNIT V CLUSTERING TECHNIQUE 15

Clustering Techniques: cluster Analysis – Clustering Methods – Hierarchical Methods – Density Based Methods – Outlier Analysis – Introduction to Advanced Topics: Web Mining, Spatial Mining and Temporal Mining.

Total No of Hours: 75

TEXT BOOK

1. J. Han and M. Kamber , 2006, Data Mining: Concepts and Techniques,

Elsevier.

REFERENCE BOOKS

1. M. H.Dunham, 2003, Data Mining : Introductory and Advanced Topics , Pearson Education, Delhi.
2. PaulrajPonnaiah, 2001, Data Warehousing Fundamentals, Wiley Publishers.
3. S.N. Sivananda and S. Sumathi, 2006, Data Mining, Thomsan Learning, Chennai.

15BIT112 IMAGE PROCESSING 5 0 0 3

COURSE OBJECTIVE:

- Provide the student with the fundamentals of digital image processing.
- Introduce the students to some advanced topics in digital image processing should time permit.
- Give the students a useful skill base that would allow them to carry out further study should they be interested and to work in the field.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Demonstratethe basic concepts of two-dimensional signal acquisition,sampling, and quantization.
- Understand (i.e., be able to describe, analyse and reason about) how digital images are represented, manipulated, encoded and processed, with emphasis on algorithm design, implementation and performance evaluation.
- Understand the 2D Fourier transform concepts, including the 2D DFT and FFT, and their use in frequency domain filtering.
- Demonstratethe fundamental image enhancement algorithms such ashistogram modification, contrast manipulation, and edge detection.
- Evaluate the methodologies for image segmentation, restoration
- Demonstrate programming skills in digital image processing related problems

UNIT I INTRODUCTION 15

Introduction: Digital Image representation - Fundamental steps in Image Processing - Elements of Digital Image Processing Systems - Sampling and Quantization - Basic relationships between pixels - Imaging Geometry - Transformation Technology-Image processing methods: Image Enhancement: The Spatial Domain Methods, The Frequency Domain Methods - Image Restoration: Basic Framework, Interactive Restoration, Image deformation and geometric transformations, image morphing, Restoration techniques, Noise characterization, Noise restoration filters, Adaptive filters, Linear, Position invariant degradations, Estimation of Degradation functions, Restoration from projections. Image Compression: Basics, SE, Erosion, Dilation, Opening, Closing, Hit-or-Miss Transform.

UNIT II STEGNOGRAPHY 15

Introduction: Information Hiding: Stenography and Watermarking – Differences between Watermarking and Steganography History of watermarking – Importance of digital watermarking – Applications – Properties – Evaluating watermarking systems. Classification in Digital Watermarking: Classification Based on Characteristics*:* Blind versus Non blind, Perceptible versus Imperceptible, Private versus Public, Robust versus, Fragile, Spatial Domain-Based versus Frequency Domain-Based.

UNIT III WATERMARKING 15

Digital Watermarking techniques : Spatial domain –Frequency domain : Discrete Fourier Transform – Discrete Cosine Transform –Discrete Wavelet Transform - An Overview of Adjusted-Purpose Digital Watermarking, The Morphological Approach of Extracting Pixel-Based Features, The Strategies for Adjusting the Varying-Sized Transform, Window and Quality Factor, Experimental Results, The Collecting Approach for Generating the VSTW.Robust

UNIT IVMATLAB 15

Mat lab -Image processing toolbox-How to import an image-Image display-Image Enhancement-Image Restoration-Image transform-De-blurring-Color map manipulation-Image type conversion.

UNIT V CASE STUDY 15

Case Studies of Wavelet Applications: Binary Signal Buried in Chirp Noise- Binary Signal with White Noise-Image compression/De-noising -Improved Performance using the UDWT.

Total No of Hours:75

TEXT BOOKS

1. Ingemar J. Cox, Matthew L. Miller, Jeffrey A. Bloom, Jessica Fridrich, Ton Kalker, “Digital Watermarking and Steganography”, Margan Kaufmann Publishers, New York, 2008.
2. Ingemar J. Cox, Matthew L. Miller, Jeffrey A. Bloom, “Digital Watermarking”, Margan Kaufmann Publishers, New York, 2003.

REFERENCE BOOK

1. Michael Arnold, Martin Schmucker, Stephen D. Wolthusen, “Techniques and Applications of Digital Watermarking and Contest Protection”, Artech House, London, 2003.

15BIT113 MOBLIE COMPUTING 5 0 0 3

COURSE OBJECTIVE:

- To learn about the concepts and principles of mobile computing;
- To explore both theoretical and practical issues of mobile computing;
- To develop skills of finding solutions and building software for mobile computing applications

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Describe the basic concepts and principles in mobile computing
- Understand the concept of Wireless LANs, PAN, Mobile Networks, and Sensor Networks
- Understand the structure and components for Mobile IP and Mobility Management
- Understand positioning techniques and location-based services and applications
- Describe the important issues and concerns on security and privacy
- Design and implement mobile applications to realize location-aware computing
- Design algorithms for location estimations based on different positioning techniques and platforms
- Acquire the knowledge to administrate and to maintain a Wireless LAN
- Recognize the important issues and concerns on security and privacy
- Program applications on a mobile computing system and interact with servers and database systems

UNIT IWIRELESS COMMUNICATION FUNDAMENTALS 12

Introduction – Wireless transmission – Frequencies for radio transmission – Signals – Antennas – Signal Propagation – Multiplexing – Modulations – Spread spectrum – MAC – SDMA – FDMA – TDMA – CDMA – Cellular Wireless Networks.

UNIT II TELECOMMUNICATION NETWORKS 12

Telecommunication systems – GSM – GPRS – DECT – UMTS – IMT-2000 – Satellite Networks - Basics – Parameters and Configurations – Capacity Allocation – FAMA and DAMA – Broadcast Systems – DAB - DVB.

UNIT III WIRLESS LAN 12

Wireless LAN – IEEE 802.11 - Architecture – services – MAC – Physical layer – IEEE 802.11a - 802.11b standards – HIPERLAN – Blue Tooth.

UNIT IV MOBILE NETWORK LAYER 12

Mobile IP – Dynamic Host Configuration Protocol - Routing – DSDV – DSR – Alternative Metrics.

UNIT V TRANSPORT AND APPLICATION LAYERS 12

Traditional TCP – Classical TCP improvements – WAP, WAP 2.0.

Total No of Hours: 60

TEXT BOOKS

1. Jochen Schiller, "Mobile Communications", PHI/Pearson Education, Second Edition, 2003. (Unit I Chap 1,2&3- Unit II chap 4,5 &6-Unit III Chap 7.Unit IV Chap 8- Unit V Chap 9&10.)
2. William Stallings, "Wireless Communications and Networks", PHI/Pearson Education, 2002. (Unit I Chapter – 7&10-Unit II Chap 9)

REFERENCE BOOKS

1. KavehPahlavan, PrasanthKrishnamoorthy, "Principles of Wireless Networks", PHI/Pearson Education, 2003.
2. UweHansmann, LotharMerk, Martin S. Nicklons and Thomas Stober, "Principles of Mobile Computing", Springer, New York, 2003.
3. HazysztofWesolowshi, "Mobile Communication Systems", John Wiley and Sons Ltd, 2002.

15BIT114 ORGANIZATIONAL BEHAVIOUR 4 0 0 3

COURSE OBJECTIVE:

- Individual ethical behavior and community responsibilities in organizations and society.
- Management responsiveness to ethnic, cultural, and diversity issues.
- Group and individual dynamics in organizations and Human resource management and development.
- Management and decision-making in an integrative organizational environment and Individual and group decision making processes

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Analyse the behavior of individuals and groups in organizations in terms of the key factors that influence organizational behavior.
- Understand the balance sheet preparation and do analysis.
- Understand the budget preparation and control of a company.
- Decide about the state of affairs of a particular firm / company.
- Ensure the preparation of fiscal policies of the organization.
- Ensure the factors to be considered in investment policies.
- Understand the general purposes and functions of accounting
- Understand the differences between management and financial accounting
- describe the main elements of financial accounting information – assets, liabilities, revenue and expenses
- Identify cost classifications based on how the cost will be used: whether for preparing external reports, predicting cost behavior, assigning costs to cost objects, or decision making.
- Identify the costing method to use in custom situations and in mass-production situations and know how to apply those methods.

- Identify various cost classifications based on how costs respond to changes in production levels, and how those changes affect managements' decision to expand or reduce capacity levels.
- Prepare an income statement required for external reporting and a different one more useful to managers for managerial decision-making.
- Evaluate business segments and the managers responsible for those business segments.
- Prepare and evaluate operating as well as capital budgets.
- Develop the ethical constraints that guide a manager in pursuing his/her ultimate goal of maximizing the value of the firm.

UNIT I INTRODUCTION 12

Management Accounting – Meaning and purposeFinancial Accounting – Preparation of Income statement and Balance Sheet – Interpretation and use of these statements by management.

Ratio Analysis and Funds Statement.

UNIT IIEXPENDITURE 12

Capital Expenditure Evaluation – Capital budgetary concept – Methods – Limitations Budgetary Control – Nature and COURSE OBJECTIVE of budgetary control – Limitations.

UNIT IIICASH ACCOUNTING 12

Cost Accounting – Elements of cost – Cost of goods manufactured – Pricing of elements – Basis of allocation – Standard costing and variance analysis – Job and process costing.

UNIT IVMANAGING COST 12

Marginal Costing – Cost volume – Profit relationship – Break – Even Analysis – Direct costing vs Absorption costing.

UNIT V REPORT 12

Reporting to management – Uses of Accounting information in Managerial decision-making.

Total No of Hours : 60

TEXT BOOKS

1. J.R. Batliboi, Double entry Book – Keeping - The Standard Accounting Publication Pvt. Ltd., India.

2. Horngren. Sundem‘ Sralton, Introduction to Management Accounting, New Delhi, Prentice Hall of India Pvt. Ltd., yr.2006.

REFERENCE BOOKS

1. Man Mohan & S.N. Goyal, Principal of Management Accounting – Sahityabhavan, Agra, India.

2. I.M. Pandey, Management Accounting, 3rd edition New Delhi, Vikas Publication, yr. 2000.

15BIT115 DISTRIBUTED COMPUTING 4 0 0 3

COURSE OBJECTIVE:

- Understanding the major tools and techniques that allow programmers to effectively program the parts of the code that require substantial communication and synchronization.
- Studying the core ideas behind modern coordination and communication paradigms and distributed data structures.
- Introduce a variety of methodologies and approaches for reasoning about concurrent and distributed programs.
- Realizing not only the basic principles but also the best practice engineering techniques of concurrent and distributed computing.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Demonstrate knowledge of the basic elements and concepts related to distributed system technologies;
- Demonstrate knowledge of the core architectural aspects of distributed systems;
- Design and implement distributed applications;
- Demonstrate knowledge of details the main underlying components of distributed systems (such as RPC, file systems);
- Apply important methods in distributed systems to support scalability and fault tolerance;
- Implement new trends in large-scale distributed application.
- Develop and apply knowledge of client server model in distributed systems
- Gain experience in the design and development of distributed systems and distributed systems applications.
- Gain experience in the application of fundamental Computer Science methods and algorithms in the development of distributed systems and distributed systems applications.
- Gain experience in the design and implementing distributed database architecture, concurrency control and recovery.

UNITI INTRODUCTION **12**

Hardware Concepts-Switched Multiprocessor-Bus-based multicomputers-Switched Multicomputers-software concepts-Network Operating /systems and NS-Time Distributed Systems. Design Issues: Transparency-Flexibility-Reliability-Performance and scalability.

UNITII CLIENT / SERVER MODEL **12**

Communications in distribute systems-The Client/Server Model-Blocking versus unbuffered primitives-Implementation of Client/Server model.

UNITIII SYNCHRONIZATION **12**

Synchronization in distributed systems-Clock synchronization – Mutual exclusion-Election algorithms-Atomic transactions-Dead lock distributed system-Threads-thread usage and implementation of thread packages-Processor allocation.

UNITIV DISTRIBUTED FILE SYSTEM 12

Distributed File System: File Service interface-Semantics of file sharing – Distributed file system-Implementation of new trends in distributed file system.

UNITV DISTRIBUTED DATABASE 12

Distributed databases: Distributed DBMS Architecture-sorting Data in a Distributed DBMS-distributed Catalog Management-Distributed query processing- Updating distributed data-Distributed transaction management-Distributed Concurrency control-Recovery.

Total No of Hours: 60

TEXT BOOK

1. A.S.Tanenbanum-Modern operating systems-Prentice Hall.

REFERENCE BOOK

1. Raghu Ramakrishnan - Database Management Systems-WCB/McGraw Hill-1997.

15BIT116 EXTENSIBLE MARKUP LANGUAGE (XML)

4 0 0 3

COURSE OBJECTIVE:

- Understood fundamental trends of technological evolution of Wireless technology.
- Understood the knowledge in WML contents.
- Be able to plan, design, and develop WAP pages and contents.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Design and code data transfer scripts using XML languages for the transfer of data over business networks and the Internet.

- Describe how XML can be applied to well-constructed documents for Web browser-based technology in business information systems
- Identify concepts related to connecting resources with links, CSS, DTD, and internationalization
- Design and apply XML to create a markup language for data and document centric application
- Relate to the history of XML, including some background on Markup Languages (SGML, etc.)
- Familiar with XSL transformations , Xpath , cascading style sheets etc.,

- Relate to XML Document type definitions & XML Content Models.

- Relate to XML-Based Application Configuration.

- Design and apply advanced schema concepts , tree structures , vies etc.,

UNIT I DATA CONVERSION 12

Conversion of Text to PDF andConversion of PDF to Word, Data Conversion from Word to HTML format, Data Conversion from Text to HTML, math keying, pre-editing workflow

UNIT II XML INTRODUCTION 12

XML-Origins and description of the XML, Differences between XML and HTML, Differences between XML and SGML, Uses of XML, XML Document structure, DTDs, Schemas, validation, character sets and encoding, Namespaces, comments, Processing instruction, CDTA sections, XML Tools

UNIT III DOCUMENT 12

Document Type Definitions-Document type declaration, Notations, Entities, XML content models, Element structure, attribute structure, Building document structure.

UNIT IV CSS 12

Cascading Style Sheets in browsers and components, The display: block property Fonts, Text Alignment, Borders, Backgrounds, XSL Transformation, Xpath-nodes, syntax, axes and operators

UNIT V SCHEMA 12

Basic schema concepts, advanced schema concepts, schema for structures, schema for Datatypes. DOM-Levels of DOM, XML Tree structure, DOM core, Using DOM interfaces, DOMviews, DOM style interfaces, DOM traversal and ranges

Total No Of Hours: 60

TEXT BOOK

1. Ed.Tittel, "Schaum's Outline of Theory and Problems of XML", Tata McGraw

-Hill Edition, 2004

REFERENCE BOOK

1. Ron schmelzer, XML and Web services, Tata McGraw Hill Edition,2008

15BIT117 ARTIFICIAL INTELLIGENCE 4 0 0 3

COURSE OBJECTIVE:

- To familiarize students with Artificial Intelligence techniques for building well-engineered and efficient intelligent systems.
- Pattern-directed inference systems and different types of truth maintenance systems will be discussed in length from both theoretical and applied point of view.
- Some cutting edge applications of these systems will also be discussed. Introduction to Artificial Intelligence Programming using LISP will be provided to help students with the programming part of the course.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Design a knowledge based system
- Familiar with terminology used in this topical area
- Analyze the dimensions along which agents and environments vary, along with key functions that must be implemented in a general agent
- Implement agents using search algorithms such as uninformed search, informed search or local search
- Develop strategies for agents in games of perfect and imperfect information
- Represent knowledge of the world using logic and infer new facts from that knowledge
- Use a Bayesian network to make quantitative (probabilistic) and qualitative inferences
- Implement a Bayesian network that solves a simple version of a problem such as text categorization or object recognition
- To read and analyze important historical and current trends addressing artificial intelligence.

UNITI INTRODUCTION 12

Artificial Intelligence Definition – Importance of Artificial Intelligence – Knowledge based Systems – Knowledge Representation – State space search – Production systems – Artificial Intelligence Programming Language – PROLOG – Heuristic search - Depth First Breadth first – Hill climbing – 4^{th} algorithms – Game Playing.

UNITII KNOWLEDGE REPRESENTATION 12

Prepositional Logic – Clause form – Predicate logic – Resolution – Inference Rules – Unification – Semantic networks – frames – conceptual dependency – Scripts – Representing Knowledge using rules.

UNIT III SYMBOLIC REASONING AND UNCERTAINTY 12

Non monotonic Reasoning – Truth maintenance systems – closed world assumption – modal and temporal Logics – Bayes Theorem - certainty factors – Bayesian networks – Dempster – Shafer Theory – Fuzzy logic.

UNIT IV NATURAL LAGUAGE PROCESSING 12

Overview of Linguistics – grammars and Languages – Basic parsing techniques – semantic Analysis and representation structures – Natural language generation – natural language systems – Distributed Reasoning systems – Intelligent agents.

UNIT V EXPERT SYSTEMS 12

Architecture – Non production systems Architectures – Knowledge acquisition and validation – Knowledge system building tools – Types of Learning – General Learning model – Learning by induction – Generalization and specialization – Inductive bias – Explanation based Learning.

Total No Of Hours: 60

TEXT BOOKS

1. Dan W. Patterson, "Introduction to Artificial Intelligence and Expert Systems", Prentice Hall of India, Delhi, 2001.
2. Elaine Rich and Kevin Knight, "Artificial Intelligence" Tata McGraw Hill Pub. Co., Delhi, 2001.

REFERENCE BOOK

1. George F Luger, "Artificial Intelligence, structures and strategies for complex problem solving", Pearson Education Delhi, 2001

15BIT118 E COMMERCE **4 0 0 4**

COURSE OBJECTIVE:

- To obtain knowledge of Internet hardware associated with E-commerce systems.
- Gain knowledge of selected Standard application commonly used in business
- Ability to design a fundamental E-Business concept and Gain knowledge of the issues of network security and business-tech protocols.
- Introduction to Business graphics – with focus on advertising philosophy.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Demonstrate an understanding of the foundations and importance of E-commerce
- Demonstrate an understanding of retailing in E-commerce by:
    - analyzing branding and pricing strategies,
    - using and determining the effectiveness of market research
    - Assessing the effects of disintermediation.
- Analyze the impact of E-commerce on business models and strategy
- Apply Internet trading relationships including Business to Consumer, Business-to-Business, Intra-organizational.
- Understand the infrastructure for E-commerce
- Understand the key features of Internet, Intranets and Extranets and explain how they relate to each other.
- Understand the legal issues and privacy in E-Commerce

- Assess electronic payment systems
- Recognize and discuss global E-commerce issues

UNITI ELECTRONIC COMMERCE ENVIRONMENT AND OPPORTUNITIES 12

Background-The Electronic Commerce Environment – Electronic Market place Technologies-Modes of Electronic Commerce: Overview –Electronic Data Interchange-Migration To Open EDI – Electronic Commerce Going Forward.

UNITII APPROACHES TO SAFE ELECTRONIC COMMERCE 12

Overview- Secure Transport Protocols – Secure Transactions –Secure Electronic Payment Protocol (SEPP)-Secure Electronic Transaction (SET) – Certificates for Authentication – SecurityOn Web Servers and Enterprise Networks- Electronic Cash and Electronic Payment Schemes: Internet Monetary Payment and Security Requirements –Payment and Purchase Order – On-line Electronic Cash.

UNITIII INTERNET/INTRANET SECURITY ISSUES AND SOLUTIONS 12

The Need for Computer Security –Specific Intruder Approaches –Security Strategies – Security Tools – Encryption –Enterprise Networking and Access to the Internet –Antivirus Programs-Security Teams.

UNITIV MASTERCARD/VISA SECURE ELECTRONIC TRANSACTION 12

Introduction- Business Requirements- Concepts- Payment Processing- E-mail and Secure E-mail Technologies for Electronic Commerce: Introduction – The Means of Distribution- A Model for Message handling – How Does E-mail Work? –MIME: Multipurpose Internet Mail Extensions – S/MIME: Secure Multipurpose Internet Mail Extensions –MOSS: Message Object Security Services – Comparisons of Methods –MIME and Related Facilities for EDI over the Internet.

UNITV INTERNET AND WEB SITE ESTABLISHMENT 12

Introduction- Technologies for Web Servers –Internet Tools Telecast to Commerce –Internet Applications for Commerce- Internet Charges- Internet Access and Architecture –Searching the

Internet- Internet Resources: A Travelogue of Web Mails: Introduction- A Shopping Experience – A Travelogue –Applications: Advertising on the Internet: Issues and Technologies: Introduction Advertising on the Web –"Marketing 101"-Creating a Web Site.

Total No of Hours: 60

TEXT BOOKS

1. Abirami devi.K ,"E-Commmerce ", Margham publications , 2009.
2. Chatterjee , Indira , "E-Commmerce", Scitech publications , 2010.

REFERENCE BOOK

1. Nandankamath , "Law Relating To Computers ,Internet And E-Com ", universal law publications.

15BIT119 SYSTEM ANALYSIS AND DESIGN 4 0 0 4

COURSE OBJECTIVE:

- Become familiar with the modern approaches to systems analysis and design

Learn how to use a variety of tools and techniques for analyzing business problems and designing information systems

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Gather data to analyse and specify the requirements of a system.
- Design system components and environments.
- Build general and detailed models that assist programmers in implementing a system.
- Design a database for storing data and a user interface for data input and output, as well as controls to protect the system and its data.
- Define and describe the five phases of the system development life cycle.
- State at least five expected benefits from systems projects.
- Explain at least three ways in which information systems support business requirements.

- Describe how systems analysts interact with users, management, and other information systemsprofessionals.
- Develop data flow diagrams and decision tables.
- Perform a feasibility study.
- Evaluate systems development alternatives.
- Solve realistic systems analysis problems.
- Determine methods for evaluating the effectiveness and efficiency of a system.
- Work as an effective team member on assigned projects.

UNIT I BUSINESS PROBLEM &COMPUTERS 12

Overview of Business Organization – information needs & systems – Some typical problems – System life cycle– System study – Feasibility Study

UNIT II SYSTEM ANALYSIS 12

Initiation of Analysis – The Process of Analysis – System Design – Design factors – Design Constraints – Processing Techniques – The Process of design – Output Design – input Design – Process Design – File Data Base Design

UNIT III ANALYSIS & DESIGN TOOLS 12

Data Flow Diagram – Data Dictionary – Entity Relationship Diagram – Decision Tree – Decision Table – Structured English – Structure Charts – Grid Charts – Layout Charts – Configuration Selection & Acquisition – Detailing the configuration – Storage requirements – Internal Memory – Processors – Terminals – Printers

UNIT IV FILE ORGANIZATION & DESIGN 12

Functional Classification of Files – File structure – File Organization – Inverted File – Security & Controls – Risk management – Physical Security – Access Control – Data Control – Other Security & control measures

UNIT V PHASES 12

Post – Design phases – Develop Software – Installation & Changes-over-System Operation & maintenance – Systems Applications – Financial Accounting – Inventory Accounting System – Equipment Maintenance – Bank Operations – Production Planning & control – Process Control – Robotics

Total No of Hours 60

TEXT BOOK

1. System Analysis & Business Applications – Rajesh Nalk&Swapna Kishore, Wheeler Publishing – 1st edition 2000

REFERENCE BOOK

1. Introducing Systems Analysis & Design – EllasM.Awad – Galgotia Publications (P) Ltd., (Second Edition)

15BIT120OPEN SOURCE TECHNOLOGIES 4 0 0 4

COURSE OBJECTIVE:

- Create a document in Microsoft Word with formatting that complies with the APA
- Write functions in Microsoft Excel to perform basic calculations and to convert number to text and text to number.
- Create a presentation in Microsoft PowerPoint that is interactive and legible content

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Install and run open-source operating systems.
- Gather information about Free and Open Source Software projects from software releases and from sites on the internet.
- Build and modify one or more Free and Open Source Software packages.

- Apply a version control system and to interface with version control systems used by development communities.
- Contribute software to and interact with Free and Open Source Software development projects.
- Recognize the benefits and features of Open Source Technology.
- Interpret, Contrast and compare open source products among themselves
- Understand and demonstrate Version Control System along with its commands

UNIT I INTRODUCTION 12

Open Source, Free Software, Free Software vs. Open Source software, Public Domain Software, FOSS does not mean no cost. History : BSD, The Free Software Foundation and the GNU Project. Open Source History, Initiatives, Principle and methodologies. Philosophy : Software Freedom, Open Source Development Model Licences and Patents: What Is A License, Important FOSS Licenses (Apache,BSD,GPL, LGPL), copyrights and copylefts, Patents Economics of FOSS : Zero Marginal Cost, Income-generation opportunities, Problems with traditional commercial software, Internationalization.

UNIT II INTRODUCTION LINUX OPERATING SYSTEMS 12

History ofLinux and Unix, Linux overview, **shell**: Bourne, Korn and C-shell, File, Structure: Directories and files,Utilities: Editors, Filters, andCommunications.

UNIT III LINUXSTARTUPAND SETUP 12

User Accounts, Accessing your LinuxSystem Starting and Shutting down,Login/Logout, Linux Commands,Installing Software packages, Remotecommunications, Modern Setup,Internet Connections with Modems:pppd&ezppp, XFmail, X-Windows andnetwork configuration.

UNIT IV INTRODUCTION TO VISUAL EFFECTS AND BLENDER 12

The History of Visual Effects,3D: General Principles, Downloading, Installing, and Setting Up Blender, Getting Around 3D,Making and Rendering Your First Scenes .*Editing Objects :*Basic Principle: Data blocks ,Introduction to Edit Mode ,Separating and Joining Objects ,Object Modifiers, Converting to Mesh from Curve.

UNIT V INTRODUCTION TO PYTHON 12

variables, expressions and statements, evaluation of expressions, precedence, string operations (Note:- the instructor can demonstrate simple programs to the students and encourage them to develop similar ones. Chapters 1 and 2 of the third text book have to be covered.) Functions, calling functions, type conversion and coercion, composition of functions, mathematical functions, user-defined functions, parameters and arguments. (Note: - Chapter 3 of the second text book has to be covered. The instructor should demonstrate each aspect of the function with real examples and encourage students to develop their own.)

Total No Of Hours: 60

TEXT BOOKS

1. How to think like a Computer Scientist: Learning with Python, Allen Downey et al., Green Tea Press, second edition.
2. Introduction to Computing and Programming in Python, Mark J Guzdial, Pearson India Think Python, Allen Downey, Shroff Publisher Oreilly.

REFERENCE BOOKS

1. Operating Systems ,William Stallings, PHI publications,sixth edition, 2010.
2. Operating System by AchyutGodbole ,Atul kahate Tata McGraw Hill publication,Third edition.
3. Linux the complete refrence. Richard Mathews, Tata McGraw Hill publication,Third edition,2002.

15BIT121 CLOUD COMPUTING 4 0 0 4

COURSE OBJECTIVES:

- To understand the concept of cloud and utility computing
- To understand the various issues in cloud computing
- To familiarize themselves with the lead players in cloud

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Develop and deploy cloud application using popular cloud platforms
- Design and develop highly scalable cloud-based applications by creating and configuring virtual machines on the cloud and building private cloud.
- Identify the techniques of big data analysis in cloud.
- Compare, contrast, and evaluate the key trade-offs between multiple approaches to cloud system design, and Identify appropriate design choices when solving real-world cloud computing problems.
- Write comprehensive case studies analyzing and contrasting different cloud computing solutions.
- Make recommendations on cloud computing solutions for an enterprise.
- Understanding the key dimensions of the challenge of Cloud Computing
- Assessment of the economics, financial, and technological implications for selecting cloud computing for own organization
- Assessing the financial, technological, and organizational capacity of employer's for actively initiating and installing cloud based applications.
- Assessment of own organizations' needs for capacity building and training in cloud Computingrelated IT areas
- Understand the programming models in Eucalyptus,Open Nebula, OpenStack
- Understand Application Execution Models on Clouds,, consistency on Clouds,Cloud Virtualization, Abstractions and Enabling Technologies

UNIT I INTRODUCTION 12

Evolution of Cloud Computing –System Models for Distributed and Cloud Computing –NIST Cloud Computing Reference Architecture -IaaS–On-demand Provisioning -Elasticity inCloud –E.g.of IaaS Providers -PaaS –E.g.of PaaS Providers –SaaS –E.g. of SaaS Providers– Public , Private and Hybrid Clouds.

UNIT II VIRTUALIZATION 12

Basics of Virtualization -Types of Virtualization -Implementation Levels of Virtualization - Virtualization Structures -Tools and Mechanisms -Virtualization ofCPU, Memory, I/O Devices - Desktop Virtualization –Server Virtualization.

UNIT III CLOUD INFRASTRUCTURE 12

Architectural Design of Compute and Storage Clouds –Layered Cloud Architecture Development –Design Challenges -Inter Cloud Resource Management–Resource Provisioning and Platform Deployment –Global Exchange of Cloud Resources.

UNIT IV PROGRAMMING MODEL 12

Parallel and Distributed Programming Paradigms –Map Reduce, Twister and Iterative MapReduce –Hadoop Library from Apache –Mapping Applications Programming Support - Google App Engine, Amazon AWS -Cloud Software Environments -Eucalyptus, Open Nebula, OpenStack.

UNIT V SECURITY IN THE CLOUD 12

Security Overview –Cloud Security Challenges –Software-as-a-Service Security – Security Governance –Risk Management –Security Monitoring –Security Architecture Design –Data Security –Application Security –Virtual Machine Security.

Total No of Hours : 60

TEXT BOOKS

1. Kai Hwang, Geoffrey C Fox, Jack G Dongarra, "Distributedand Cloud Computing, From Parallel Processing to the Internet of Things", Morgan Kaufmann Publishers, 2012.
2. JohnW.Rittinghouse and James F.Ransome, "Cloud Computing: Implementation, Management, and Security", CRC Press,2010.

REFRENCE BOOKS

1.Toby Velte, Anthony Velte, Robert Elsenpeter, “Cloud Computing, A Practical Approach”,TMH, 2009.

2.George Reese, “Cloud Application Architectures: Building Applications and Infrastructure in the Cloud”O'Reilly, 2009.

GENERIC ELECTIVES (GE)

15BIT151 WEB DESIGNING 2 0 0 2

COURSE OBJECTIVE:

- To explain the student the major concepts of web designing.
- This course explains the graphics and animation..
- This course gives an outline of Adobe Illustrator CS4 and Corel DrawWX4.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Understand the importance of the web as a medium of communication.
- Understand the principles of creating an effective web page, including an in-depth consideration of information architecture.
- Understand the graphic design principles that relate to web design and learn how to implement these theories into practice.
- Create and manipulate web media objects using editing software.
- Develop skills in analyzing the usability of a web site.
- Learn the language of the web: HTML and CSS.
- Develop skills in using WYSIWYG web development software (Seamonkey.)
- Develop skills in digital imaging (Adobe Photoshop.)
- Understand the concept of embed social media content into web pages.
- Implement and understand how to interpret basic web analytics.

UNIT I INTRODUCTION 10

Basic principles involved in developing a web site , Planning process , Five Golden rules of web designing , Designing navigation bar , Page design , Home Page Layout , Design Concept.

UNIT II HTML 10

What is HTML , HTML Documents , Basic structure of an HTML document ,Creating an HTML document , Mark up Tags , Heading-Paragraphs ,Line Breaks , HTML Tags,Elements of HTML.

UNIT III ELEMENTS OF HTML 10

Introduction to elements of HTML, Working with Text, Working with Lists, Tables and Frames, Working with Hyperlinks and Images.

Total No of Hours: 30

TEXT BOOK

1. Ivan Bayross , "HTML 5 and CSS 3 Made Simple",BPB publications,Dec 2012

REFERENCE BOOK

1. Thomas A.Powell,"HTML COMPLETE REFERENCE",McGraw – Hill Publications, 2000.

15BIT152 FLASH 2 0 0 2

COURSE OBJECTIVE:

- To know the concepts in flash
- To learn about the common tools available in flash.
- To learn the steps for tweening and masking.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Utilize several Flash tools and tactics learned throughout the course to produce an interactive flash based website.
- Demonstrate the ability to effectively utilize the timeline and motion tween affects to produce animation.
- Create, manipulate, and edit text and graphics to obtain desired graphical outcomes.
- Understand, create, and edit symbols, filters and instances in 3D spaces.
- Design, create, edit, and manipulate animation using several animation tools and techniques.
- Utilize tween and articulated motions with inverse kinematics to morph shape.
- Design, create, and edit flash based navigation menus and interactive movies.
- Utilize and understand sound and sound formats in flash movies.
- Utilize the components to create interactivity
- Load, control, and remove movie clips and masks in movie content.
- Publish flash movies in numerous formats and contexts in a professional and web friendly manner.

UNIT I INTRODUCTION 10

Motion tweening**,**Animated object using guide layer,Dynamic masking in textDrive information using URL, Masking, Shapetweening.

UNIT II INPUT DEVICES 10

Displayingitem details, Calculator-Mouse Input, Calculator-Keyboard Input.

UNIT III APPLICATIONS 10

Paybillpresentation, S-Puzzle problem, Animation with buttonsAnimation on an image, Quiz program.

Total No of Hours: 30

TEXT BOOK

1. Nick Vandome, "FLASH 5 in easy steps", Dreamtech press,2001.

REFERENCE BOOK

1. E.A VanderVeer & Chris Graver, "Flash CS3",Orelly Publications.2009.

15BIT153 INTERNET BASICS 2 0 0 2

COURSE OBJECTIVE:

- To make the student understands the overall view of internet.
- To inculcate the students about the various facilities available in internet.
- To gain practical knowledge about internet.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Understand the process of computer.
- Understand the features of internet, web and web browser.
- Operating Computer using GUI Based Operating System.
- Understand the Electronic Mail, E-Mail software and Newsgroup.
- Understand the concept of Internet, WWW and Web Browsers.
- Understand the Communications and collaboration.

- Understand how to make the Small Presentation.
- Understand the FTP concepts and its use.
- Understand the history of the wireless internet.
- Understand the applications of internet.

UNIT I INTRODUCTION 10

Describe the important features of the Web and Web browser software, Evaluate e-mail software and Web-based e-mail services. Use search engines and directories effectively, Find, evaluate, and use online information resources

UNIT II MAILING 10

Use mailing lists, newsgroups, and newsfeeds, Create HTML documents and enhance them with browser extensions

UNIT III E-COMMERCE 10

List and describe security threats and counter measures,describe the important features of electronic commerce

Total No of Hours: 30

TEXT BOOK

1. RohitKhorana, "Computer Fundamentals and Internet Basics", Aph Publishing Corporation, 2010

REFERENCE BOOK

1. Margaret Levine Young, "Internet Millennium Edition", Osborne Publications, 2000.

15BIT154 STEP UP PROGRAMMING LEVEL-1 2 0 0 2

COURSE OBJECTIVE:

- To know the concepts in basic programming

- To learn about the common programming techniques
- To write step by step procedure for writing a program

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Understand the structured programming
- Impart the knowledge about variables and assignments
- Write algorithm that represent programming logic
- Understand notations/symbols to draw a flowchart
- Design the flowchart that represent programming logic
- Understand the basic idea about decision making statement
- Know about repetition and looping statement

UNIT I BASIC CONCEPTS: 10

Design process, problem-solving, structured programming logic and techniques, algorithm development, program design. Variables. Identifiers, constants and tokens. Variable assignments. Calculation, Totaling and Counting, Input and Output techniques.

UNIT II FLOWCHART: 10

Seven steps in program development cycle, flowchart to represent the program's logic, breaking down the programming problems into modules, shapes and symbols to draw the flowchart, example for flowchart.

UNIT III CONTROL STRUCTURES: 10

Introduction to control structures, sequence, selection, decision making, repetition and looping Selection, simple IF, IF THEN ELSE, ELSE IF , nested IF, CASE OF OTHERWISE ENDCASE.

Total No of Hours: 30

TEXT BOOK

1. Gary Willough “Pure basic: A Beginner's Guide to Computer Programming”,Aardvark Global Publishing, 2006

REFERENCE BOOK

1. P. K. Sinha,”Computer Fundamentals”, Sixth Edition BPB Publications, 2004.

15BIT155 STEP UP PROGRAMMING LEVEL-2 2 0 0 2

COURSE OBJECTIVE:

- To make the student understand the computer programming process.
- To practice the students how to write program for the concepts arrays, functions and recursion.
- To describe the concepts of decision making utilized in programming.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Know about designing tools to code a program
- Master understanding of the computer programming process
- Understand the concept of decision making in programming
- Impart knowledge of looping structures
- Know about converting design logic into code
- Learn the syntax of programming languages

UNIT I INTRODUCTION 10

Demonstrate a basic understanding of the computer programming process, Demonstrate skill using various design tools to design and code a computer program.

UNIT II CONTROL FLOW 10

Describe the concepts of decision making utilized in programming. .Describe the concepts of looping structures utilized in programming.

UNIT III MODULAR AND MENU DRIVEN 10

Understand how modularization is used in designing a computer program.Define and manipulate single-dimensional and multiple-dimensional arrays.Describe how to develop and utilize a menu-driven program.

. **Total No of Hours: 30**

TEXT BOOK

1. Gary Willough “Purebasic: A Beginner's Guide to Computer Programming”,Aardvark Global Publishing, 2006

REFERENCE BOOK

1. P. K. Sinha,”Computer Fundamentals”, Sixth Edition BPB Publications, 2004.

15BIT156 ADVANCED EXCEL 2 0 0 2

COURSE OBJECTIVE:

- To make the student understand the special concepts in MS EXCEL.
- To practice the students how to work in list, data forms and records.
- To understand the concepts of filtering data.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Insert or delete a worksheet in MS Excel file.
- Identify cells in a worksheet by their namesand format data.
- Perform simple arithmetic calculations directly in a cell as well as by referring to another cell.
- Perform operations on a whole column or a row.
- Use absolute and relative references to refer to cells or cell ranges.

- Use Excel functions to calculate mean, median, standard deviation, minimum and maximum values.
- Create simple graphs and charts.
- Create frequency tables using pivot table functions in Excel.

UNIT IADVANCED EXCEL **10**

Uses of Advance Excel Formulas -VLOOKUP, HLOOKUP, SUMIF, SUMIFS, SUMPRODUCT, DSUM, COUNTIF, COUNTIFS, IF, IFERROR, ISERROR, ISNA, ISNUMBER, ISNONTEXT, OR, AND, SEARCH, INDEX, MATCH etc

UNIT II CONDITIONALS **10**

Various Methods and Uses of IF Conditions, When should use the "IF" Conditions? , Creation of Multiple IF Conditions in One Cell, Use the IF Conditions with the Other Advance Functions, How to use nested IF statements in Excel with AND, OR Functions. Sorting, Data Forms, Adding Data Using the Data Form, Finding Records Using Criteria

UNIT III FILTERING AND SORTING **10**

Filtering Data, AutoFilter, Totals and Subtotals Total, Row, Various Methods of Filter and Advance Filter options, Creating and Updating Subtotals, Various Method of Sorting Data ,Creating, Formatting and Modifying Chart.

Total No of Hours: 30

TEXT BOOK

1. Jordan Goldmeler, “Advanced Excel Essentials” , APress, 2015 edition.

REFERENCE BOOK

1 .John Walkenbach , “Microsoft Excel 2013 Bible” ,Wiley Publications ,2013

15BIT157 OFFICE AUTOMATION TOOLS 2 0 0 2

COURSE OBJECTIVE:

- To know the common applications available for office work.
- To learn how to work in MS-OFFICE.
- To learn how to work in MS-EXCEL and POWERPOINT.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Understand how to create document using Ms-Word
- Understand accounting operations using Ms-Excel
- Understand presentation skills using Ms-Powerpoint
- Work on basic power point utilities and tools which help them create basic power point presentation.
- Make the presentations interactive.
- Demonstrate a basic understanding of computer hardware and software.
- Demonstrate problem solving skills.
- Apply logical skills to programming in a variety of languages.
- Present conclusions effectively, orally, and in writing.
- Apply the skills that are the focus of this program to business scenarios.

UNIT I INTRODUCTION 10

Text Manipulations, Usage of Numbering, Bullets, Footer and Headers, Usage of Spell check, and Find & Replace, Text Formatting, Picture insertion and alignment.

UNIT IIMSWORD 10

Creation of documents, using templates, Creation templates, Mail Merge Concepts, Copying Text & Pictures from Excel. Preparation of Organization Charts, Presentation using Wizards,Usage of design templates

UNIT III MS – EXCEL **10**

Cell Editing, Usage of Formulae and Bulit-in Functions, File Manipulations, Data Sorting (both number and alphabets), Worksheet Preparation, Drawing Graphs,Usage of Auto Formatting. Inserting Clip arts and Pictures, Frame movements of the above,Insertion of new slides .

Total No of Hours: 30

TEXT BOOK

1. Joyce Cox, Joan Lambert and Curtis Fryc, "Step by Step Microsoft Office Professional 2010", Microsoft press, 2011 edition.

REFERENCE BOOK

2. Ralph T.Reilly , "The Handbook of office Automation", iUniverse Publications , 2012.

15BIT158 MY SQL **2 0 0 2**

COURSE OBJECTIVE:

- To make the student understands how the SQL works in computer.
- To practice the student about creation, deletion, insertion, appending of database in SQL.
- To make the student to create a report of the database created.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Know the concepts of Client and Server
- Understand about database and its objects

- Learn the queries on adding, modifying and deleting data in a database
- Know about searching and removing data in a database
- Impart knowledge of grouping and aggregating functions in SQL
- Working with transaction and manipulation of data in a database

UNIT I THEORY, TERMINOLOGY AND CONCEPTS 10

Client/server concepts, database and database objects, data definition using sql , databases , data types, tables ,constraints and indexes ,views.

UNIT II BASIC DATA MANIPULATION USING SQL 10

Recurring sql constructs, adding data, modifying data, removing data, searching data, advanced data manipulation using sql,expressions, grouping and aggregate functions, joining tables.

UNIT III THEORY, TERMINOLOGY AND CONCEPTS 10

Client/server concepts, database and database objects,transactions, transaction concepts, sql for working with transaction ,import/export, Tools for import/export ,sql for import/export.

Total No of Hours: 30

TEXT BOOK

1. Paul DuBois, “MySQL Developer's Library,5th Edition, 2013.

REFERENCE BOOK

1. Michael Kruckenberg , “Pro MYSQL”,Apress Publications,2005.

15BIT159 CLIENT SIDE SCRIPTING LANGUAGES

2 0 0 2

COURSE OBJECTIVE:

- To explain the student the need of scripting languages in programming environment.
- This subject deals various tags available in scripting language.
- This course explains about the intrinsic event handlers.

COURSE OUTCOMES:

On successful completion of this course, the student should able to:

- Understand the different types of scripting languages currently available highlighting their major advantages,disadvantages and uses.
- Understand Methods used to implement client side scripts within web pages
- Improve theembedded coding and externally stored code
- Apply advanced terminology and standards
- Understand the Theory of web architecture
- Understand the Implications for application design
- Understand the Client-Side Scripting versus Server-Side Scripting

UNIT I SCRIPT AND HTML 10

What is a script anyway?**,** Scripts and name-calling, Scripting Ethics, Embedding scripts into HTML documents, hiding scripts with HTML comments, specifying the scripting language

UNIT II SCRIPT EXECUTION 5

Deferring script execution**,**Providing alternate content ,Defining the default scripting language , Intrinsic event handlers

UNIT III JAVASCRIPT INTRODUCTION 5

JavaScript, History of JavaScript, Basic JavaScript language syntax, Script Elements, Variables, Statements, Functions, Operators and Expressions , Arrays, Loops, and Conditional Statements ,Objects and Methods.

UNIT IV DOM 10

Data Types , on event processing , External JavaScript Files ,Debugging Tools and Techniques , Document Object Model (DOM) , Objects , Properties , Methods ,Mouse events

Total No of Hours: 30

TEXT BOOK

1**.** Ivan Bayross , "Teach Yourself Web Technology: part- 1", BPB publications ,2003

REFERENCE BOOK

1. MirazJordan,"Web Design Reference Guide", Pearson Edition, 2003

ABILITY ENHANCEMENT COMPULSORY COURSES (AECC)

15LTA001 தமிழ்மொழி, இலக்கியவரலாறு–அறிமுகம் 5 0 0 4

நோக்கம்:

தமிழ்மொழிமற்றும்இலக்கியத்தின்வரலாற்றைஅறிமுகம்செய்யும்நோக்கில்இப்பாடம்வடிவமைக்கப்பட்டுள்ளது.

தமிழ்மொழியின்வரலாற்றைஅறிவியல்கண்ணோட்டத்துடனும்மொழிக்குடும்பங்களின்அடிப்படையிலும்விளக்குகிறது. சங்கஇலக்கியம்தொடங்கி, இக்காலஇலக்கியம்வரையிலானதமிழிலக்கியவரலாற்றைஇலக்கியவரலாறுஅறிமுகப்படுத்துகின்றது.

அரசுவேலைவாய்ப்பிற்கானபோட்டித்தேர்வுகளுக்குப்பயன்படும்வகையிலும்இப்பாடம்அமைந்துள்ளது.

அலகு 1 தமிழ்மொழிவரலாறு 13மணிநேரம்

மொழிக்குடும்பம் - இந்தியமொழிக்குடும்பங்கள் - இந்தியஆட்சிமொழிகள் - திராவிடமொழிக்குடும்பங்கள் - திராவிடமொழிகளின்வகைகள் – திராவிடமொழிகளின்சிறப்புகள் - திராவிடமொழிகளின்வழங்கிடங்கள் - திராவிடமொழிகளுள்தமிழின்இடம் - தமிழ்மொழியின்சிறப்புகள் - தமிழ்பிறமொழித்தொடர்புகள்.

அலகு 2 சங்கஇலக்கியம் 12 மணிநேரம்

சங்கஇலக்கியம் - எட்டுத்தொகை - நற்றிணை - குறுந்தொகை - ஐங்குறுநூறு - பதிற்றுப்பத்து - பரிபாடல் - கலித்தொகை - அகநானூறு - புறநானூறு - பத்துப்பாட்டு – திருமுருகாற்றுப்படை – சிறுபாணாற்றுப்படை – பெரும்பாணாற்றுப்படை – பொருநராற்றுப்படை – மலைபடுகடாம் – குறிஞ்சிப்பாட்டு, முல்லைப்பாட்டு, பட்டினப்பாலை –நெடுநல்வாடை – மதுரைக்காஞ்சி.

அலகு 3 அறஇலக்கியங்களும்காப்பியங்களும் 11 மணிநேரம்

களப்பிரர்காலம்விளக்கம் – நீதிஇலக்கியத்தின்சமூகத்தேவை - பதினெண்கீழ்க்கணக்குநூல்கள்அறிமுகம் - திருக்குறள், நாலடியார்.காப்பியங்கள் – ஐம்பெருங்காப்பியங்கள்மற்றும்ஐஞ்சிறுங்காப்பியங்கள்அறிமுகம்–காப்பியஇலக்கணம் - சிலப்பதிகாரம் – மணிமேகலை – சீவகசிந்தாமணி – வளையாபதி – குண்டலகேசி.

அலகு 4 பக்திஇலக்கியங்களும்சிற்றிலக்கியங்களும் 11 மணிநேரம்

தமிழகப்பக்திஇயக்கங்கள் - பக்திஇலக்கியங்கள் - சைவஇலக்கியம் - நாயன்மார்கள்அறுபத்துமூவர் - சமயக்குரவர்நால்வர் - வைணவஇலக்கியம் - பன்னிருஆழ்வார்கள் - முதல்மூன்றுஆழ்வார்கள்.சிற்றிலக்கியக்காலம் - சிற்றிலக்கியங்கள்- வகைகள் - பரணி - கலிங்கத்துப்பரணி - குறவஞ்சி - குற்றாலக்குறவஞ்சி - பிள்ளைத்தமிழ் - மீனாட்சியம்மைப்பிள்ளைத்தமிழ் - தூது - தமிழ்விடுதூது - கலம்பகம் - நந்திக்கலம்பகம் - பள்ளு - முக்கூடற்பள்ளு.

அலகு 5 இக்காலஇலக்கியங்கள் 13

நவீனகாலம் – நவீனஇலக்கியம் – உள்ளடக்கம் - புதுக்கவிதை - தோற்றமும்வளர்ச்சியும்- நாவல் - முதல்மூன்றுநாவல்கள் – நாவலின்வகைகள் - பொழுதுபோக்குநாவல்கள் - வரலாற்றுநாவல்கள் - சமூகநாவல்கள் - இக்காலநாவல்கள் - மொழிபெயர்ப்புநாவல்கள் - சிறுகதை –வகைகளும்வளர்ச்சியும் – நாடகம் – காலந்தோறும்நாடகங்கள் - புராணஇதிகாசநாடகங்கள் - சமூகநாடகங்கள் - வரலாற்றுநாடகங்கள் – மொழிபெயர்ப்புநாடகங்கள் - நகைச்சுவைநாடகங்கள்.

மொத்தம்: 60 மணிநேரம்

பாடநூல்கள்

1. அகத்தியலிங்கம். ச., "திராவிடமொழிகள்தொகுதி 1", மணிவாசகர்பதிப்பகம், முதற்பதிப்பு, 1978.

2. சக்திவேல். சு., "தமிழ்மொழிவரலாறு", மணிவாசகர்பதிப்பகம், முதற்பதிப்பு 1998.

பார்வைநூல்கள்

1.பூவண்ணன், " தமிழ்இலக்கியவரலாறு", சைவசித்தாந்தநூற்பதிப்புக்கழகம், முதற்பதிப்பு, 1998.

2.வரதராசன். மு., "இலக்கியவரலாறு",சாகித்யஅகாதெமி, ஒன்பதாம்பதிப்பு, 1994.

3. விமலானந்தம். மது.ச., "இலக்கியவரலாறு", பாரிநிலையம், மறுபதிப்பு, 2008.

15LHN001 HINDI I 5 0 0 4

COURSE OBJECTIVE

To train the students in the use of Karyalayin Basha.To enable the students to develop the communication skill in Hindi language**.**

UNIT I GADYA AUR KARYALAYIN BASHA 12

Mamata, -Yogyatha evam vyavasay kaa Chunaav Paribashik shabdavalil prashasanik vakyansh,padanam

UNIT II GADYA AUR SARKARI PATRA 12

Rajneethi kaa Bhantwara, , Samanya sarkari patra,gyapan,karyalay gyapan

UNIT III GADYA AUR SARKARI PATRA 12

Computer nayi krantee kee dastak, , Karyalay aadesh,Ardha sarkari patra paripatra,Adhisoochana

UNIT IV GADYA AUR SAMANYA PATRA 12

Raspriya, Samanya patra- chutti patra,sampadak ke naam patra, shikayati patra,

pustak vikretha ke naam patra

UNIT VYAVASAAYIK PATRA 12

Bankon mein bach khaata kholne ke liye – chek buk ke liye, run lene hetu, chek buk gum ho jane hetu, kitaabon kaa krayadesh

Total No of Hours: 60

TEXT BOOK

1. Gadya Aur Prayojanmulak Hindi ed by Dr.N.Lavanya Mayura Publishers, edition 2008

15LFR001 FRENCH I 5 0 0 4

COURSE OBJECTIVE:

- To introduce French Language.
- To enable the students to understand and to acquire the basic knowledge of French
- Language with the elementary grammar.

UNIT I INTRODUCTION 12

Introduction - Alphabet – Comment prononcer, écrire et lire les mots- Base : Les prénoms personnel de 1er, 2ème et 3ème personnes – Conjugaisons les verbes être et avoir en forme affirmative, négative et interrogative

UNIT II LEÇONS 1- 3 **12**

Leçons 1.Premiers mots en français,- 2. Les hommes sont difficiles,- 3 Vive la liberté- Réponses aux questions tirés de la leçon - Grammaire : Les adjectives masculines ou féminines – Les articles définis et indéfinis - Singuliers et pluriels

UNIT III LEÇONS 4- 6 **12**

Leçons 4. L'heure, C'est l ; heure,- 5. Elle va revoir sa Normandie,- 6 .Mettez –vous d'accord groupe de nom - Réponses aux questions tirés de la leçon - Grammaire : A placer et accorder l'adjectif en groupe de nom- Préposition de lieu –A écrire les nombres et l'heure en français

UNIT VI LEÇONS 7- 9 **12**

Leçons7. Trois visages de l'aventure,- 8. A moi, Auvergne,- 9. Recit de voyage - Réponses aux questions tirés de la leçon - Grammaire : Adjectif possessif – Les Phrases au Présent de l'indicatif - Les phrases avec les verbes pronominaux au présent

UNIT V COMPOSITION **12** A écrire une lettre à un ami l'invitant à une célébration différente ex : mariage – A faire le dialogue - A lire le passage et répondre aux questions

Total No Of Hours : 60

TEXT BOOK

1. Jacky GIRARDER & Jean Marie GRIDLIG, « Méthode de Françai PANORAMA », Clé Internationales, Goyal Publication, New Delhi., Edition 2004

REFERENCE BOOKS

1. DONDO Mathurin , " Modern French Course", Oxford University Press., New Delhi., Edition 1997

2. Nitya Vijayakumar, "Get Ready French Grammar – Elementary", Goyal Publications, New Delhi., Edition 2010

15LEN001 ENGLISH PAPER I 5 0 0 4

- Course COURSE OBJECTIVE: To enable the students to develop their communication skills effectively. To make students familiar with the English Language.
- To enrich vocabulary in English
- To develop communicative competent

UNIT I DETAILED POEMS I 12

1. On His Blindness - John Milton
2. The Village Schoolmaster - Oliver Goldsmith
3. The Daffodils - William Wordsworth

UNIT II DETAILED POEMS II 12

4. Night and Death - Joseph Blanco White
5. The Ballad of Father Gilligan - W.B.Yeats

UNIT III PROSE 12

1. Martin Luther King Jr. - Coretta s King
2. Albert Shweitzer - Norman Wymar
3. Stanley Finds Livingstone - Lawrence Wilson
4. Srinivasa Ramanujan - C.P. Snow
5. My Days - R.K. Narayan

UNIT IV GRAMMAR 12

1. Articles

2. Prepositions
3. Tenses
4. Wh - Questions
5. Synonyms and Antonyms
6. One Word Substitution

UNIT V COMPOSITION 12

7. Reading Comprehension
8. Filling up Forms
9. Railway Reservation/ Cancellation Forms
10. Bank-Chalan
11. Convocation Form
12. Money Order Form

Total No Of Hours : 60

TEXT BOOK

1. Mahadevan, Usha. *Empower with English*, *Sun Beams - 1*. Emerald Pub: Chennai. 2012. Print.

15LTA002 தமிழிலக்கியம் 5 0 0 4

நோக்கம்:

சங்ககாலம்தொடங்கிதற்காலம்வரையிலும்தமிழில்உள்ளபடைப்பிலக்கியங்களைஇப்பாடம்அறிமுகம்செய்கின்றது.

தமிழ்இலக்கியத்தில்தேர்ந்தெடுக்கப்பட்டமிகமுக்கியமானசெய்யுட்கள், கவிதைகள், கதைகள், உரைநடைஆகியவற்றைக்கொண்டுஇப்பாடம்கட்டமைக்கப்பட்டுள்ளது.

மாணாக்கரிடம்இலக்கியத்தேடலைஉருவாக்குவதும்,

தற்சார்புடையஅறிவைமேம்படுத்துவதும்இப்பாடத்தின்நோக்கமாகும்.

அலகு 1 செவ்வியல்இலக்கியங்கள் 12 மணிநேரம்

திருக்குறள்- அன்புடைமை, ஒழுக்கமுடைமை, பெரியாரைத்துணைக்கோடல் – மூன்றுஅதிகாரங்கள்முழுமையும்.புறநானூறு- பாடல்எண்: 18, 55, 182, 183, 192 – ஐந்துபாடல்கள்.குறுந்தொகை- பாடல்எண்: 2, 167, 27, 202, 184 - ஐந்துபாடல்கள்.

அலகு 2 காப்பியங்கள் 12 மணிநேரம்

சிலப்பதிகாரம்- கனாத்திறம்உரைத்தக்காதைமுழுவதும்.மணிமேகலை- பவத்திறம்அறுகஎனப்பாவைநோற்றகாதைமுழுவதும்.கம்பராமாயணம் - மந்தரைச்சூழ்ச்சிப்படலம் (தேர்ந்தெடுக்கப்பட்டஒன்பதுபாடல்கள்).

அலகு 3 கவிதையும்புதுக்கவிதையும் 11 மணிநேரம்

பாரதிதாசனின் 'தமிழியக்கம்' -(i) நெஞ்சுபதைக்கும்நிலை - (ii) இருப்பதைவிடஇறப்பதுநன்று - இரண்டுகவிதைகள்.ஈரோடுதமிழன்பனின், "அந்தநந்தனைஎரித்தநெருப்பின்மிச்சம்" என்னும்தொகுதியில்இடம்பெற்றுள்ள 'விடிகிறது' என்னும்புதுக்கவிதை.

அலகு 4 சிறுகதைகள் 12 மணிநேரம்

தி. ஜானகிராமனின் 'சக்திவைத்தியம்' கி. ராஜநாராயணனின்'கதவு' - இரண்டுகதைகள்

அலகு 5 உரைநடை 13 மணிநேரம்

வைரமுத்துஎழுதிய ‘சிற்பியேஉன்னைச்செதுக்குகிறேன்’ முழுவதும்

மொத்தம்: 60 மணிநேரம்

பாடநூல்கள்

1. இரவிச்சந்திரன். சு. (ப.ஆ), ‘‘செய்யுள்திரட்டு’’, வேல்ஸ்பல்கலைக்கழகம், முதற்பதிப்பு, 2008.

2. வைரமுத்து. இரா., ‘‘சிற்பியேஉன்னைச்செதுக்குகிறேன்’’, திருமகள்நிலையம், பதினேழாம்பதிப்பு, 2007.

பார்வைநூல்கள்

1. பாலச்சந்திரன்.சு., ‘‘இலக்கியத்திறனாய்வு’’, நியூசெஞ்சுரிபுக்ஹவுஸ், பத்தாம்பதிப்பு, 2007.

2. மாதையன்.பெ., ‘‘தமிழ்ச்செவ்வியல்படைப்புகள்’’, நியூசெஞ்சுரிபுக்ஹவுஸ், முதல்பதிப்பு, 2009.

3. வரதராசன்.மு., ‘‘குறள்காட்டும்காதலர்’’, பாரிநிலையம், மறுபதிப்பு, 2005.

15LHN002 HINDI II 5 0 0 4

COURSE OBJECTIVE

- To enable the students to have the knowledge in contemporary literature of the modern era. It also provides an idea how translation to be effected.

UNIT I KAHANI AUR EKANKI 12

Poos Kee Raat., - Duzhazar

UNIT 2 EKANKI AUR KAHANI 12

Vaapasi, Akeli, .Akbhari vigyapan

UNIT 3 KAHANI AUR ANUVAD 12

Sharandatha - Anuvad anuched angreji se hindi me karne ke liye.

UNIT 4 EKANKI AUR ANUVAD 12

Raat ke Raahi Main Bhi Maanav hoonAnuvad anuched angreji se hindi me karne ke liye.

UNIT 5KAHANI ,EKANKI AUR ANUVAD 12

Parda -Yeh Meri Janma Bhoomi Hai -anuvad anuched angreji se hindi me karne ke liye.

Total No of Hours: 60

TEXT BOOK

1.Sankalan Kahani evam Ekankied by Dr.N.Lavanya, Mayura Publishers,edition 2010

15LFR002 FRENCH II 5 0 0 4

COURSE OBJECTIVE:

- To fortify the grammar and vocabulary skills of the students.
- Enable the students have an idea of the French Culture and Civilization

UNIT I LEÇONS 10 – 11 12

Les affaires marchent,- 11. Un après midi à problemes- Réponses aux questions tirés de la leçon - Grammaire : Présent progressif, passé récent ou future proche - Complément d'objet directe - Complément d'objet indirecte .

UNIT II LEÇONS 12 – 13 12

Tout est bien qui fini bien,- 13. Aux armes citoyens – Réponses aux questions tirés de la leçon - Grammaire : Les pronoms « en ou y » apporter des paroles - Les pronoms relatifs que, qui, ou où ,

UNIT III LEÇONS 14 – 15 12

Leçons 14. Qui ne risqué rien n'a rien,- 15. La fortune sourit aux audacieux – Réponses aux questions tirés de la leçon - Grammaire : Comparaison – Les phrases au passé composé

UNIT IV LEÇONS 16 – 18 12

Leçons16 La publicite et nos reves 17 La france le monde 18 Campagne publicitaire Réponses aux questions tirés de la leçon - Grammaire :- Les phrases à l' Imparfait - Les phrases au Future

UNIT V COMPOSITION 12

A écrire une lettre de regret// refus à un ami concernant l'invitation d'une célébration reçue- A écrire un essaie sur un sujet générale - A lire le passage et répondre aux questions

Total No Of Hours : 60

TEXT BOOK

1. Jacky GIRARDER & Jean Marie GRIDLIG, « Méthode de Françai PANORAMA », Clé Intérnationale , Goyal Publication, New Delhi., Edition 2004

15LEN002 ENGLISH PAPER – II 5 0 0 4

Course COURSE OBJECTIVE: -

- To enable the students to develop their communication skills effectively. To make students familiar with the English Language.

- To enrich vocabulary in English
- To develop communicative competent

UNIT I PROSE-I **15**

1. On Saying 'Please' - A.G. Gardiner
2. Women, Not the Weaker Sex - M.K. Gandhi
3. The Sky is the Limit - Kalpana Chawla

UNIT – II PROSE-II **15**

4. Polluting the World - Edgar I. Baker
5. Dimensions of Creativity - Dr. A. P. J. Abdul Kalam
6. The Message of Visva - Bharati

UNIT III SHORT STORIES **15**

1. Open Window - H. H. Munro (Saki)
2. The Lion's Share - Arnold Bennett
3. The Sparrows - K.A. Abbas
4. The Cop and The Anthem - O- Henry
5. The Necklace - Guyde Maupassant

UNIT IV FUNDAMENTAL GRAMMAR SKIL **15**

1. Question Tags
2. Concord
3. Reported Speech
4. Idiom and Phrases

UNIT – V ADVANCED GRAMMAR SKILLS **15**

5. Conditional Clauses

6. Cause and Effect
7. Simple, Complex, Compound
8. Framming Questions

Total No OF Hours : 75

TEXT BOOK

1. Rao, Shoba B. *Empower with English*, *Sun Beams - II*. Emerald Pub: Chennai. 2012. Print.

15LTA003 பயன்பாட்டுத்தமிழ் 5004

நோக்கம்:

தற்காலஅன்றாடத்தேவைக்குரியவகையில்தமிழ்மொழியைச்செம்மையாகப்பயன்படுத்த வேண்டும்என்னும்நோக்கில்இப்பாடம்உருவாக்கப்பட்டுள்ளது.

மாணாக்கரின்வேலைவாய்ப்புநேர்காணல்கள்மற்றும்குழுஉரையாடல்களைஎதிர்கொள்வதற்கேற்றபேச்சுத்திறன்மேம்பாடு, செய்தித்தாள்களைநுட்பமாகஅணுகும்விதம், சிறந்தகடிதங்களைஎழுதுவதற்கானபயிற்சிபோன்றபயன்பாடுசார்ந்தமொழிப்பயிற்சியைஇப்பாடம்அளிக்கின்றது.

அலகு 1 மொழி 11 மணிநேரம்

பிழைநீக்கிஎழுதுதல் - ஒற்றுப்பிழைநீக்கிஎழுதுதல் - தொடர்பிழைநீக்கிஎழுதுதல் - ஒற்றுமிகும்இடங்கள் - ஒற்றுமிகாஇடங்கள் - பிறமொழிச்சொற்களைநீக்கிஎழுதுதல் – பயிற்சிகள்.

அலகு 2 பேச்சு 13 மணிநேரம்

பேச்சுத்திறன் – விளக்கம் – பேச்சுத்திறனின்அடிப்படைகள் - வகைகள் – மேடைப்பேச்சு - உரையாடல் - குழுவாகஉரையாடல் – பயிற்சிகள்.தலைவர்களின்மேடைப்பேச்சுகள் - பெரியார் - அண்ணா - கலைஞர்.

அலகு 3 எழுதுதிறன் 12 மணிநேரம்

கலைச்சொல்லாக்கம் - தேவைகள் - கலைச்சொற்களின்பண்புகள் - கலைச்சொல்லாக்கத்தில்தவிர்க்கவேண்டியவை - அறிவியல்கலைச்சொற்கள்.

கடிதம் - வகைகள் - அலுவலகக்கடிதங்கள் - பயிற்சி - அறிஞர்களின்கடிதங்கள் - கடிதங்களின்வழிகற்பித்தல் - சிலஅறிஞர்களின்கடிதங்கள் - நேரு...,

அலகு 4 மொழிபெயர்ப்பு 13 மணிநேரம்

மொழிபெயர்ப்புஅடிப்படைக்கோட்பாடுகள் - மொழிபெயர்ப்புமுறைகள் - மொழிபெயர்ப்பாளரின்தகுதிகள்.மொழிபெயர்ப்புவகைகள் - சொல்லுக்குச்சொல்மொழிபெயர்த்தல் - தழுவல் - கட்டற்றமொழிபெயர்ப்பு - மொழியாக்கப்படைப்பு - இயந்திரமொழிபெயர்ப்பு - கருத்துப்பெயர்ப்பு - மொழிபெயர்ப்புநடை - மொழிபெயர்ப்புசிக்கல்களும்தீர்வுகளும்.பயிற்சி: அலுவலகக்கடிதங்களைமொழிபெயர்த்தல் (ஆங்கிலத்திலிருந்துதமிழுக்கு).

அலகு 5 இதழியல்பயிற்சி 11 மணிநேரம்

இதழ்களுக்குத்தலையங்கம்எழுதுதல் - நூல்மதிப்புரைஎழுதுதல் - சாதனையாளரைநேர்காணல் - நிகழ்ச்சியைச்செய்தியாகமாற்றுதல்.

மொத்தம்: 60 மணிநேரம்

பாடநூல்கள்

1. ஈஸ்வரன்.ச., சபாபதி.இரா., "இதழியல்", பாவைபப்ளிகேஷன்ஸ், முதற்பதிப்பு, 2004.

2. ஈஸ்வரன்.ச., "மொழிபெயர்ப்பியல்", பாவைபப்ளிகேஷன்ஸ், முதற்பதிப்பு, 2005.

பார்வைநூல்கள்

1.எட்கர்தார்ப், ஷோவிக்தார்ப், "நேர்முகத்தேர்வில்வெற்றிபெற", கிழக்குப்பதிப்பகம், இரண்டாம்பதிப்பு, 2009.

2.சுப்பிரமணியன்.பா.ரா., ஞானசுந்தரம்.வ., (ப.ஆ)"தமிழ்நடைக்கையேடு", இந்தியமொழிகளின்நடுவண்நிறுவனம், மைசூர்மொழி அறக்கட்டளை மற்றும் தஞ்சைத்தமிழ்ப்பல்கலைக்கழகம் - வெளியீடு, நான்காம்மீள்பதிப்பு, 2010.

3. சுப்புரெட்டியார்.ந., "தமிழ்பயிற்றும்முறை", மெய்யப்பன்பதிப்பகம், ஐந்தாம்பதிப்பு, 2006.

15LHN003 HINDI III 5 0 0 4

COURSE OBJECTIVE:

- To help the students to have in depth knowledge of Literature. It makes the students to acquire more about the medieval period through the literary works.

UNIT I PRACHIN KAVYA HINDI SAHITYA KA ITIHAS 12

Kabir- Hindi bash aka vikas – Hindi sahitya kaa aavirbahv

UNIT II PRACHIN KAVYA HINDI SAHITYA KA ITIHAS 12

Surdaas, Tulsidass. Hindi sahitya kaa kaal vibhajan, aadikal, kaa Parichay

UNIT III PRACHIN KAVYA HINDI SAHITYA KA ITIHAS 12

Rahim, aadikaal kaa namkran, paristhitiyan, racha evam rachnaakar

UNIT IV BHAKTI KAAL, REETHI KAA 12

Bhakti kal kaa vibhajan paristhitiyan- racha evam rachnaakar - Reethikal ke prakaar, rachna evam rachnakar

UNIT V PRACHIN KAVYA EVAM RACHNAKARON KAA PARICHAY 12

Bihari - Chandbardayee, Ameerkhusaro, Kabir, Surdas, Tulsidas Jaayasi, Kesahv das Bhushan,

Total No Of Hours: 60

TEXT BOOK

1.Prachin evam Aadhunik Kavya Sankalan ed by Dr.N.Lavanya, Mayura Publishers, edition 2011

REFERENCE BOOK

1. Hindi Sahitya kaa Itihas, By Dr.Nagendra, Raj kamal Prakashan, 1997

15LFR003 FRENCH III 5 0 0 4

COURSE OBJECTIVE:

- To strengthen the Grammar and Composition in French language.
- To train the students to enhance his skill in French language for communication

UNIT I LA FAMILLE VINCENT 12

Leçon 16 - La famille Vincent (Page 44) - Grammaire : Passé composé'

Leçon 29 - Vers l'hôtel (page 80) Grammaire : Impératif, A mettre les phrases du singulier au pluriel

UNIT II L'EPICERIE, LES LEGUMES ET LES FRUITS 12

Leçon 40 - L'épicerie, les légumes et les fruits (page 112) – Grammaire : Présent de l'indicatif

Leçon 44 - La poste (page 124) – l Grammaire : A mettre les phrases à l'imparfait

UNIT III LE CAFE ET TABAC 12

Leçon 51 - Le café et tabac (page 142) - Grammaire : A changer les phrases en Interrogatif

Leçon 58 - La Chasse et la pèche (160) - Grammaire : Le plus que parfait

UNIT IV UN MARIAGE A LA 12

Leçon 61 Un mariage à la campagne(page 170) - Grammaire –A changer au participe présent

UNIT V COMPOSITION 12

: Aécrire une lettre à un ami l'invitant à une celebration differente ex : mariage –
A faire un essaie sur un sujet générale - A lire le passage et répondre aux questions

Total No Of Hours : 60

TEXT BOOKS

1. Les leçons ont été choisi et tiré de I & II degré de G .MAUGER « Cours de
2. Langue et de Civilisation Française » The Millenium, Publication Hachette,Edition 2002

REFERENCE BOOKS

1.Dondo Mathurin, " Modern French Course", Oxford University Press, New Delhi., Edition 1997

2. Paul Chinnapan, « Saraswati Grammaire Française facile », Saraswathi HousPvt. Ltd., New Delhi., Edition 2010

3. Larouse, "Larouse French Grammar", Goyal Publication, New Delhi., Edition ,1995

15LTA004 தமிழர்நாகரிகமும்பண்பாடும் 5004

நோக்கம்: பண்டைத் தமிழரின் வாழ்வியல் நெறிகள் இயல்பானதும் இயற்கையோடு இணங்கிச் செல்வதுமாகும்; மிகவும் பழமையானதும் பண்பட்டதுமாகும். அன்பான அக வாழ்க்கையைக்கூட செம்மையாகத் திட்டமிட்டுள்ளனர். பொழுதுபோக்கு, போர்முறைகள், கலை, சமயம், அரசியல், அறிவியல் என அனைத்திலும் தமிழர் சிறந்து விளங்குவதை விளக்கும் பாடமாக இது அமைந்துள்ளது. அரசு வேலை வாய்ப்பிற்கான போட்டித் தேர்வுகளுக்குப் பயன்படும் வகையிலும் இப்பாடம் அமைந்துள்ளது.

அலகு 1 நாகரிகம், பண்பாடு 12 மணி நேரம்

சொற்பொருள் விளக்கம் - பண்டைத் தமிழர் வாழ்வியல் - அகம் - களவு - கற்பு - குடும்பம் - விருந்தோம்பல் - உறவு முறைகள் - சடங்குகள் - நம்பிக்கைகள் - பொழுதுபோக்கு - புறம் - போர் முறைகள் - நடுகல் வழிபாடு - கொடைப்பண்பு.

அலகு 2 கலைகள் **12 மணி நேரம்**

சிற்பம் - ஓவியம் - இசை - கூத்து - ஒப்பனை - ஆடை அணிகலன்கள்.

அலகு 3 சமயம் **12 மணி நேரம்**

சைவம் - வைணவம் - சமணம், பௌத்தம் வெளிப்படுத்தும் பண்பாடு.

அலகு 4 அரசியல் **12 மணி நேரம்**

அரசு அமைப்பு - ஆட்சி முறை - உள்நாட்டு வணிகம் - வெளிநாட்டு வணிகம் - வரி வகைகள் - நாணயங்கள் - நீதி முறை.

அலகு 5 அறிவியல் **12 மணி நேரம்**

கல்வி - வேளாண்மை - வானியல் அறிவு - மருத்துவம் - கட்டிடக்கலை.

மொத்தம்: 60 மணி நேரம்

பாடநூல்கள்

1. கே.கே. பிள்ளை, "தமிழக வரலாறு: மக்களும் பண்பாடும்", உலகத் தமிழாராய்ச்சி நிறுவனம், மீள்பதிப்பு, 2009.

2. பக்தவச்சல பாரதி, "தமிழர் மானிடவியல்", அடையாளம், இரண்டாம் பதிப்பு, 2008.

பார்வை நூல்கள்

1. தட்சிணாமூர்த்தி. அ., "தமிழர் நாகரிகமும் பண்பாடும்",யாழ் வெளியீடு, மறுபதிப்பு, 2011.

2.தேவநேயப்பாவாணர். ஞா., "பழந்தமிழர் நாகரிகமும் பண்பாடும்", தமிழ்மண் பதிப்பகம், சென்னை.

3. வானமாமலை.நா., "தமிழர் வரலாறும் பண்பாடும்", நியூ செஞ்சுரி புக் ஹவுஸ், ஆறாம் பதிப்பு, 2007.

15LHN004 HINDI IV 5 0 0 4

COURSE OBJECTIVE:

To enable the students to acquire knowledge in journalism so as to enhance his skill in effective communication pertaining to Hindilanguage.

UNIT I AADHUNIK KAVITHA AUR RACHNAAKAR 12

Mythili Sharan Gupt - Apna Sansar, Aadhunik Rachnakar Hazaari prasad Diwedi, Mahaveer Prasad Diwedi,

UNIT II AADHUNIK KAVITHA AUR RACHNAAKAR 12

Jayashankar Prasad Kamayani - Chinta, Aadhunik Hindi Rachanakar Premchand, Jainendra

UNIT III AADHUNIK KAVITHA AUR PATRAKARITHA 12

Mahadeviverma, Murjaya PhoolBhavani Prasad Mishra Patrakarita – paribhasha,, arth, prakar, swaroop

UNIT IV AADHUNIK KAVITHA , PATRAKARITHA AUR RACHNAKAR 12

Mukthibodh Tum Logoan se door,Shamsher Bhadur Singh – Bharat kee aarathi,Vigyapan-sampadan kala,-Nirala, -Pant- Mohan Rakesh

UNIT V AADHUNIK KAVITHA , PATRAKARITHA AUR RACHNAKAR 12

Prabhakar Machve Nimna Mdhya varg, **Patrakaritha-** samachar sankalan - Peeth patrakarita, Rachnakaar - Fanishwaranath renu -Mannu bhandari,Bhagawaticharan Verma, Yashpal

Total No of Hours: 60

TEXT BOOK

1. Prachin evam Aadhunik Kavya Sankalan ed by Dr.N.Lavanya, Mayura Publishers, edition 2011

REFERENCE BOOK

1.Patrakaritha Ek Paricahy by Dr.Madhu Dhawan, Bodh Prakashan, edition 1997

15LFR004 FRENCH IV 5 0 0 4

COURSE OBJECTIVE:

- To enable the students to strengthen their knowledge of grammar/composition
- To make the students to develop their skills of communication in French language

UNIT I LEÇON 20 12

Une grande Nouvelle (page 56) – Grammaire : A mettre les phrases au Future Leçon 46. - Le métro ; l'autobus (page 130) - Grammaire : A former ou à changerl'adjectif masculin ou féminin à l'adverbe - A trouver les noms qui corres- -pondent aux verbes

UNIT II LEÇON 48 ,63 12

A la Préfecture de police (page 132) - Grammaire : Les Pronoms relatifs - Les sports (page 174) Grammaire : Le conditionnel présent

UNIT III LEÇON 56 ,57 12

A Biarritz, la plage (page 156) - Grammaire : Le future antérieure - Dans les Pyrénées (page 158) - Grammaire : Le future antérieure suite)

UNIT IV LEÇONS 65 12

A fin des vacances (page 178) Grammaire : A changer les phrases du pluriel - au singulier - Le présent du subjonctif

UNIT V COMPOSITION 12

A écrire une lettre de regret / refus à un ami concernant l'invitation d'une célébration reçue- A écrire un essaie sur un sujet générale - A lire le passage et répondre aux questions

Total No Of Hours : 60

TEXT BOOK

1. Les leçons ont été choisi et tiré de I &II degré de G .MAUGER « Cours de Langue et de Civilisation Française » The Millenium, Publication Hachette, Edition 2002

REFERENCE BOOKS

1.DONDO Mathurin, " Modern French Course", Oxford University Press, Ne Delhi., Edition 1997

2.Paul Chinnapan, « Saraswati Grammaire Française facile », Saraswathi House Pvt. Ltd., New Delhi., Edition 2010

3.Larouse, "Larouse French Grammar", Goyal Publication, New Delhi., Edition 1995

15EVS201 ENVIRONMENTAL STUDIES 2 0 0 4

COURSE OBJECTIVE:

- To train students to locate and comprehend relationships between the natural, social and cultural environment.
- To develop an understanding based on observation and illustration, drawn from lived experiences and physical, biological, social and cultural aspects of life, rather than abstractions.
- To create cognitive capacity and resourcefulness to make the students curious about social phenomena.

UNIT I INTRODUCTION 10

The multidisciplinary nature of Environment of studies – Definition - Scope and Importance - Need for Public Awareness.

UNIT II NATURAL RESOURCES 10

Natural resources and associated problem - Renewable and Non- Renewable resources:.-Forest Resources-Mineral Resources-Food Resources - Energy Resources -Land Resources: Role of an individual in conservation of natural resources-Equitable use of resources of sustainable lifestyles.

UNIT III ECO SYSTEM 10

Concepts of an Ecosystem - Structure and Functions of an Ecosystem - Procedures, Consumers and Decomposers - Energy flow in the ecosystem - Food chains, Food webs and ecological pyramids - Introduction, types, Characteristics features - Structures and functions of the following ecosystem :Forest ecosystem, Grass land ecosystem, Desert ecosystem, Aquatic ecosystem.

Total No Of Hours : 30

TEXT BOOK

1. Dr. Shradha sinha, Dr.Manisha shukula, Dr. Ranjana Shukla

REFERENCE BOOK

1.P.Venugopala Rao,"Textbook Of Environmental Engineering", Eastern Economy Edition,2006.

SKILL ENHANCEMENT COURSE (SEC)

15BIT251 ENGLISH FOR COMMUNICATION – I 4 0 0 3

COURSE OBJECTIVE:

- To train the students in the use of the english language in varied literary and non literary context
- To teach them soft skills and strength their foundation in grammar and composition
- To elevate their comprehension skills

UNIT I PROSE I 12

1. Spoon Feeding - W. R. Inge
2. Reading for Pleasure - L. A. G. Strong
3. The Challenge of our Time - E. M. Forster
4.

UNIT II PROSE II 12

5. Human Values in Education - V. K. Gokak
6. Human Rights - Sivagami Paramasivam

UNIT III SHORT STORIES 12

1. Comrades - Nanine Gordimer
2. Games at Twilight - Anita Desai
3. The Gateman's Gift - R.K. Narayan

UNIT IV PRIMARY COMPOSITION EXERCISES 12

1. Letter Writing
2. Comprehension

UNIT V ADVANCEDCOMPOSITION EXERCISES 12

3. Precis-Writing
4. Resume Writing
5. Report Writing

Total No Of Hours : 60

TEXT BOOK

1. Subramanian, S. Dr. *Words of Wisdom*. An Anthology of Modern Prose. Anu Chitra Pub., Chennai. 2003. P.

REFERENCE BOOK

1.Subramanian, A, E. *Gifts to Posterity.* An Anthology of Modern Short Stories. Anu Chitra Pub., Chennai. 2003. P

15BIT252 ENGLISH FOR COMMUNICATION – II 4 0 0 3

COURSE OBJECTIVE :

- To train the students in the use of the english language in varied literary and non literary context
- To teach them soft skills and strength their foundation in grammar and composition
- To elevate their comprehension skills

UNIT I PROSE I **12**

The Complete Man - Prince Philip

1. Try Prayer Power - Norman Vincent Peale
2. On Not Answering The Telephone - W. Plomer

UNIT II PROSE II **12**

3. Science, humanities and religion - S. Radhakrishnan
4. The Reason - E. V. Lucas

UNIT III SHORT STORIES **12**

1. The Ant and the Grasshopper - W. Somerset Maugham
2. How much land does a man need - Leo Tolstoy
3. The Dying Detective - Sir Arthur Conan Doyle

UNIT IV PRIMARY COMPOSITION EXERCISES **12**

1. Business Letters
2. Hints Development

UNIT V ADVANCEDCOMPOSITION EXERCISES 12

3. Paraphrasing
4. Writing Abstract
5. Dialogue Writing

Total No of Hours : 60

TEXT BOOK

1. Subramanian, S. Dr. *Words of Wisdom*. An Anthology of Modern Prose. Anu Chitra Pub., Chennai. 2003. P.

REFERENCE BOOK

1.Subramanian, A, E. *Gifts to Posterity.* An Anthology of Modern Short Stories. Anu Chitra Pub., Chennai. 2003. P

15NSS255 NATIONAL SERVICE SCHEME 2 0 0 2

COURSE OBJECTIVE:

- Social awareness programme
- Volunteer participation in social related campaign

UNIT I SPECIAL CAMPING PROGRAMME 10

A) Nature and its objectives
B) Selection of camp site and physical arrangement
C) Organization of N.S.S. camp through various committees and discipline in the camp.
D) Activities to be undertaken during the N.S.S. camp.

E) Use of the mass media in the N.S.S. activities

UNIT II CONTRIBUTION OF SOCIAL REFORMS 10

A) Mahatma JotibaPhule

B) RajarshiShahuChhatrapati

C) Dr.B.R.Ambedkar

UNIT III SOCIAL PROBLEMS 10

A) Water scarcity

B) Women harassment

Total No of Hours : 30

TEXT BOOKS

1. ChhatrapatiShahu – The Pillar of Social Democracy,Ed.P.B.Salunkhe
2. National Service Scheme Manual, Govt.of India

REFERENCE BOOKS

2. Social service opportunities in Hospitals, KapilK.Krishan,TISS
3. History of Social Reforms in Maharashtra, Ed.J.Y.Bhosale, S.U.Kolhapur.

15GPD251 PERSONALITY ENRICHMENT 2 0 0 2

COURSE OBJECTIVES

- To make students understand the concept and components of personality, thereby to apply the acquired knowledge to themselves and to March towards excellence in their respective academic careers.

- To enable students to keep themselves abreast of general knowledge and current information.

UNIT I INTRODUCTION 10

Definition of Personality - Determinants of Personality- biological, psychological and socio- cultural factors. - Misconceptions and clarifications - Need for personality development

UNIT II SELF-AWARENESS AND SELF MOTIVATION 10

Self analysis through SWOT and Johari window - Elements of motivation - Seven rules of motivation - Techniques and strategies for self motivation - Motivation checklist and Goal setting based on principle of SMART - Self motivation and life - Importance of self-esteem and enhancement of self-esteem.

UNIT III MEMORY AND STUDY SKILLS 10

Definition and importance of memory - Causes of forgetting - How to forget (thought stopping), how to remember (techniques for improving memory) - The technique of passing exams-management of examination fear.

Total No of Hours : 30

TEXT BOOKS

1. Mile, D.J (2004). Power of positive thinking. Delhi: Rohan Book Company.
2. Pravesh Kumar (2005). All about self- Motivation. New Delhi: Goodwill Publishing House.

REFERENCE BOOK

2. Dudley, G.A. (2004). Double you're learning power. Delhi: Konark Press. Thomas Publishing Group Ltd.

15EVB261 ETHICS AND VALUES 2 0 0 2

COURSE OBJECTIVE:

- To increase ethical sensitivity.
- To increase ethical knowledge.
- To improve ethical judgment.

UNIT-I INTRODUCTION 10

Why Value Education – Ethical Reflections – What is Ethics? Swami Vivekananda

UNIT: II APPROACH TO LIFE 10

Approach to Life - Happiness as Goal - Historical Perspective – Life in the Past Economic Awareness – Economic

UNIT: III KINDS OF VALUES 10

Kinds of Values S.Ignacimuthu S.J – Living Excellence Anthony Robbins – Concern for Influence of Science and Technology in Human's Social Life Social Relevance of Science and Technology Features – Status of Women – Mass Media and Values.

Total No of Hours : 30

TEXT BOOK

1. Touchstone: Synergy of Values – University of Madras.

REFERENCE BOOK

1.In harmony- Value Education at College Level- Dept. of Ethics and Religious Studies Loyolla College, Madras.