

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

BACHELOR OF COMPUTER APPLICATIONS

COURSES OF STUDY OFFERED

(Effective from the academic year 2011 - 2012)

CHOICE BASED CREDIT SYSTEM

Subject Code	Title of Course	Credits	Total Hours			Exam Hours	Marks		
			Lecture Hours (L)	Tutorial Hours (T)	Practical Hours (P)		Continuous Assessment	End Semester	Maximum
Semester - I									
11CS/MC/CP14	Programming with C	4	4	0	0	3	50	50	100
11CS/MC/P112	Programming with C - Practical	2	0	0	4	3	50	50	100
11CS/MC/P212	Computer Concepts and Office Tools - Practical	2	0	0	4	3	50	50	100
Semester - II									
11CS/MC/AD24	Algorithm and Data Structures	4	4	1	0	3	50	50	100
11CS/MC/P322	Advanced Programming with C - Practical	2	0	0	4	3	50	50	100
11CS/GC/ES22	Environmental Studies	2	2	0	0	-	50	-	100
Semester - III									
11CS/MC/CN34	Computer Organization and Network Fundamentals	4	4	1	0	3	50	50	100
11CS/MC/RD34	Relational DataBase Management Systems	4	4	0	0	3	50	50	100
11CS/MC/WP34	Web Programming	4	4	0	0	3	50	50	100
11CS/MC/P432	Relational DataBase Management Systems - Practical	2	0	0	4	3	50	50	100
11CS/MC/P532	Web Programming - Practical	2	0	0	4	3	50	50	100
Semester - IV									
11CS/MC/SE44	Software Engineering	4	4	1	0	3	50	50	100
11CS/MC/OP44	Object Oriented Programming with Java	4	4	0	0	3	50	50	100
11CS/MC/P642	Object Oriented Programming with Java - Practical	2	0	0	4	3	50	50	100
11CS/ME/MS43	Multimedia Systems - (Skill Development Course)	3	2	0	2	3	50	50	100
OR									
11CS/ME/PH43	PHP Programming - (Skill Development Course)	3	2	0	2	3	50	50	100
11CS/SA/CB42	Computer Basics for Differently Abled	2	2	0	0	-	50	-	100
Semester - V									
11CS/MC/AJ54	Advanced Java Programming - J2EE	4	4	0	0	3	50	50	100
11CS/MC/VP54	Visual Programming	4	4	0	0	3	50	50	100
11CS/MC/OS54	Operating Systems	4	4	1	0	3	50	50	100
11CS/MC/ST54	Software Testing	4	4	1	0	3	50	50	100
11CS/MC/P752	J2EE - Practical	2	0	0	4	3	50	50	100
11CS/MC/P852	Visual Programming - Practical	2	0	0	4	3	50	50	100

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CHOICE BASED CREDIT SYSTEM

Subject Code	Title of Course	Credits	Total Hours			Exam Hours	Marks		
			Lecture Hours (L)	Tutorial Hours (T)	Practical Hours (P)		Continuous Assessment	End Semester	Maximum
Semester - VI									
11CS/MC/NC64	Network Concepts	4	4	1	0	3	50	50	100
11CS/MC/IN64	Information and Network Security	4	4	1	0	3	50	50	100
11CS/MC/OO64	Object Oriented Analysis and Design	4	4	1	0	3	50	50	100
11CS/MC/PR64	Project	4	0	0	8	-	50	50	100
11CS/ME/TT63	Software Testing Tool - (Skill Development Course)	3	2	0	2	3	50	50	100
OR									
11CS/ME/LP63	Linux Programming - (Skill Development Course)	3	2	0	2	3	50	50	100
General Elective Courses									
11CS/GE/FC24	Fundamentals Of C Programming	4	3	0	1	3	50	50	100
11CS/GE/AM24	Animation - Multimedia Tool	4	3	0	1	3	50	50	100
11CS/GE/PP24	Programming with Perl	4	3	0	1	3	50	50	100
11CS/GE/AO32	Advanced Office Management	2	1	0	1	-	50	-	100
11CS/GE/WD32	Web Page Designing	2	1	0	1	-	50	-	100
Independent Elective Courses									
11CS/UI/CT23	Current Trends in IT	3	-	-	-	3	-	50	100
11CS/UI/PM23	Programming in Multimedia	3	-	-	-	3	-	50	100
11CS/UI/WN23	Wireless Networks	3	-	-	-	3	-	50	100

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

B.A. / B.Sc. / B.Com / B.C.A. / B.V.A. / B.S.W. DEGREE

SYLLABUS

(Effective from the Academic Year 2011 – 2012)

ENVIRONMENTAL STUDIES

CODE : 11CS/GC/ES 12

CREDIT : 2

L T P : 2 0 0

TOTAL TEACHING HOUR : 26

OBJECTIVES OF THE COURSE

- To create an awareness about Current environmental issues
- To educate the students about conservation and management of natural resources
- To make the students ecosensitive and ecofriendly.

Unit 1 (6 Hrs)

Introduction

- 1.1 Components of the environment – Classification and characteristics of resources – Renewable and non – renewable resources
- 1.2 Need for Public awareness in conservation of natural resources
- 1.3 Energy Flow in ecosystems – aquatic and terrestrial – food chain and food web.

Unit 2 (10 Hrs)

Pollution and Socio Economic Aspects of the Environment

- 2.1. Types of pollution – Air, Water, Solid Waste, Noise
- 2.2. Problems - green house effect – depletion of the ozone layer – climate change
- 2.3. Bio diversity - Definition - Loss of bio diversity – Threats to biodiversity and Conservation of biodiversity.
- 2.4. Human behaviour: - Population – urbanization – poverty (as cause and result of pollution and degradation)
- 2.5. Technology: - Agriculture and industry – deforestation. Use, Misuse and Abuse of the resources
- 2.6. Effects and consequences of environmental problems.

Unit 3 (10 Hrs)

Sustainable Development, Remedies and Policy Implications

- 3.1 Environmental disasters natural and human made – Bhopal gas Tragedy – Chernobyl Accident – Fukushima Nuclear Crisis - Gulf War – Love Canal Episode – Tsunami – Volcanic eruptions.
- 3.2 Methods evolved to measure and check environmental degradation and pollution – carbon footprint, carbon credit, ecological footprint, and ecological shadow.

- 3.3 Environmental movements in India – Chipko movement, Narmada bachao Andolan, Sethu Samudram Project
- 3.4 Environmental Acts – Policy measures with respect to India.
- 3.5 International environmental agreement – Stockholm Conference – Montreal protocol – RIO Meet – Kyoto Conference – UN conference on Climate change (Copenhagen)

Field visit

Eco initiatives at the campus : Garbage segregation and Vermicomposting – Graywater recycling – Rainwater harvesting – Solar powered lights – Bio diversity.

TEXT BOOK

Bharucha, E., Textbook of Environmental Studies, (1st edition), Hyderabad, Universities Press, 2005.

BOOKS FOR REFERENCE

Ignacimuthu, S. Environmental Awareness and Protection, New Delhi., Phoenic Publishing House, 1997.

Jadhav, H and V. M. Bhosale. Environmental Protection and Laws, New Delhi, Himalaya Publication House, 1995.

Odum, E.P. Fundamentals of Ecology, W.B. Sauders Co., U.S.A. 1971.

Mies, M. and V. Shiva. Ecofeminism, London. Zed Books, 1989.

Singh, H.R., Environmental Biology, (1st edition), New Delhi, S.Chand and Co., Ltd., 2005.

PATTERN OF EVALUATION (Totally Internal)

CONTINUOUS ASSESSMENT (CA): One Hour Test – 25 Marks
One Component – 25 Marks

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BACHELOR OF COMPUTER APPLICATIONS

SYLLABUS

(Effective from the academic year 2011 – 2012)

PROGRAMMING WITH C

CODE : 11CS/MC/CP14

CREDITS: 4

L T P: 4 0 0

TOTAL TEACHING HOURS: 52

OBJECTIVES

- To introduce students the concepts of Programming using 'C'.
- To enable them to understand how to use programming in day to day Applications.

Unit 1

(10 Hrs)

1.1 Introduction to Programming

Logical Reasoning – Flow Charts - Algorithms

1.2 Introduction to 'C' Language

Structure of 'C' Program- Function as building blocks-Language Fundamentals-Operators- Types of operators-Precedence and Associativity – Expression - Statement and types of statements - Built-in Operators and functions- Console based I/O and related built-in I/O function - Decision making structures- Loop Control structures.

Unit 2

(11 Hrs)

Arrays and Functions

Arrays – Definition, declaration and initialization and Types of Array - Sorting arrays.

Functions - Declaration and definition - Function call- Types of function - Parameter passing - Array as Argument in Function - Call by value-Call by reference-Scope of variables.

Unit 3

(12 Hrs)

3.1 Storage classes

Local variable, Global variable, Auto variable, Static variable, External variable.

3.2 Pointer Operators

Declaring a pointer variable - passing pointers to a function – pointers and arrays.

Unit 4

(11 Hrs)

Structure and Union

Strings - Definition, declaration and initialization of strings - standard library functions – Structures - Definition and declaration - Variables initialization- Accessing fields and structure operations - Nested structures – Union - Definition and declaration-Difference between Union and structure.

Unit 5

(8 Hrs)

5.1 Dynamic memory allocation: malloc, calloc, free, realloc.

5.2 File Handling: Command line arguments - File handling - Definition of Files, Opening modes of files -Standard function - Introduction to C Preprocessor - Definition of Preprocessor.

III COMPONENT

Test on debugging the code for Syntax and Logical Errors.

BOOKS FOR STUDY

Balagurusamy. E. Programming with C. Tata McGrawHill Publications, 2004.

BOOKS FOR REFERENCE:

Byron S. Gottfried. Programming with C Schaum's Outline Series. New York: McGraw Hill,1999.

Kernighan; Dennis M. Ritchie. The C Programming Language. 2nd ed. Englewood Cliffs, NJ: Prentice Hall, March 1988.

Yashwant Kanitkar. Understanding Pointers in C. SPB publications, 2003.

PATTERN OF EVALUATION (End Semester Examination – 3 Hrs.)

Theory - 100 marks

Section A

20 x 1 = 20 : Answer all the Questions.

(Ten Multiple choice questions and Ten Fill-up)

Section B

5 x 2 = 10 : Answer all the Questions.

(One question from each unit)

Section C

8 x 5 = 40 : To answer eight out of ten questions

(Two questions from each unit)

Section D

3 x 10 = 30 : To answer Three out of five questions

(One question from each unit)

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BACHELOR OF COMPUTER APPLICATIONS

SYLLABUS

(Effective from the academic year 2011 – 2012)

PROGRAMMING WITH C- PRACTICAL

CODE: 11CS/MC/PC12

CREDITS : 2

L T P : 0 0 4

TOTAL HOURS: 52

1. Implement Basic programs like Check for a Prime Number, Perfect Number, Armstrong Number, Adam Number.
2. Write Programs to find the biggest, smallest of numbers implementing If Condition, Nested If, If Else and Ternary Operator.
3. Write Programs to implement while, Do..while, For structure, in finding Summation of series
4. Write a Program to deal with multiple conditions using switch statements.
5. Write Programs to manipulate with One and Two dimensional arrays of integers and strings.
6. Write Programs implementing functions, passing parameters and returning values.
7. Write Programs to implement functions using recursion.
8. Write Programs implementing Storage Classes
9. Implement programs to manipulate with pointers like pointers and functions, pointers and arrays, pointers and strings.
10. Write Programs implementing Structures and nested Structures, Manipulating Structures with pointers and dynamic memory location, Structures and union.
11. Write Programs for manipulating files using Command Line arguments.
12. Write Programs to perform application oriented programming like Date Validation, Find and replace with files and strings, creating new commands like file copy, file merge with command line arguments.

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BACHELOR OF COMPUTER APPLICATIONS

SYLLABUS

(Effective from the academic year 2011 – 2012)

COMPUTER CONCEPTS AND OFFICE TOOLS - PRACTICAL

CODE: 11CS/MC/PT12

CREDITS: 2

L T P : 0 0 4

TOTAL HOURS: 52

OBJECTIVES

- To expose students to basic concepts of Disk Operating System.
- To make the students aware of Advanced Office Procedures.

DOS & Windows

1. Working with Directories / Folders in DOS and Windows.
2. Renaming files and Directories

MS Word 2010

3. Creating & Editing Business Letters (Using Letter wizard Option).
4. Create Multiple Addresses Using Envelopes & Labels.
5. Create a Hyperlink Using picture (or) Text.
6. Manipulate tables for different applications using options of table tool bar.
7. Create documents with Pictures applying Picture Styles
8. Create Reports with different formatting including charts.
9. Use of mail merge.
10. Create template for different applications like student admission form, question paper, etc.
11. Implement Formulas with tables.
12. Creating Organization charts for eg: depicting the structure of our college.
13. Implement Bookmark, headers and footers in the documents.
14. Use of Auto shapes toolbar to design various diagrams.
15. Exercises for creating help and Macros

MS EXCEL 2010

16. Use of Built in functions ABS, FLOOR, CEIL, ROUND, INT, TRUNC, Trigonometry Functions , EXP, LN, LOG for a set of numbers.
17. Use of Mathematical function to calculate square, sum, square root, GCD, LCM Product, Quotient, power.

18. Implement various formulae with conditional formatting.
19. Implement Sorting with various fields
20. Create a gantt chart for project scheduling.
21. Apply Excel Advanced Filtering option for applications like student mark sheet, EMP table, etc.
22. Use various types of Chart options to make a comparative study of student marks.
23. Practice of Number Conversions, Engineering functions.
24. Exercise Using Goal seek
25. Exercise Using Solver and Scenario.

MS POWERPOINT 2010

26. Use of design templates including animations.
27. Customizing the background.
28. Practice on: insertion of images, hyperlinks, embedding excel chart.
29. Use of customized bullets, Clipart, Organization chart.
30. Practice on Headers and Footers
31. Include custom animation.
32. Exercise for Insert ,edit and delete comments
33. Exercise implementing various view options.
34. Exercise implementing spell check, thesaurus.
35. Exercise implementing Save options.
36. Exercise for various publish options

MS ACCESS 2010

37. Designing a database (Table, field, type, property)
38. Adding Relationship between tables(Primary Key, Foreign Key)
39. Practice on Integrity constraints
40. Building simple queries – Insert, Delete, Update, Select, Sort
41. Implementing Forms

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BACHELOR OF COMPUTER APPLICATIONS

SYLLABUS

(Effective from the academic year 2011 - 2012)

ALGORITHM AND DATA STRUCTURES

CODE:11CS/MC/AD24

CREDITS : 4

L T P : 4 1 0

TOTAL TEACHING HOURS: 65

OBJECTIVES

- To develop students problem solving skills and methodologies.
- To introduce standard Data Structures and Algorithms.
- To initiate the implementation of the Data Structures and Algorithms.

Unit 1

(13 Hrs)

Introduction to Algorithms and Data Structures

1.1 Algorithms

Introduction - Basic steps in complete development of an algorithm - Efficiency and Analysis of Algorithms;

1.2 Fundamental Algorithms : Exchanging the values of two variables, Counting, Summation, Factorial Computation, Generation of the Fibonacci Sequence, Reversing the digits of an Integer-
Introduction to Data Structures

1.3 Searching Algorithms : Binary search, Linear search.

Unit 2

(13 Hrs)

Sorting and Linked List

2.1 Sorting Algorithms: Merge sort, Quick sort, Selection sort, Bubble sort, Insertion sort, Heap sort.

2.2 Linked List

Linked List - Representation, Traversing, Searching, Memory allocation, Insertion and deletion, Header list, Two-way List and Circular List.

Unit 3**(13 Hrs)****Stacks and Queues**

Stack: Array representation, and Linked representation Push, Pop, Traverse.

Queue: Array representation and Linked representation, Add an element, Delete an element, Traverse the Queue. Infix to Prefix and Postfix Conversions.

Unit 4**(13 Hrs)****Trees**

Binary trees, Representation, Traversal, Searching; Binary search trees - Searching, Deleting and Inserting in binary search trees.

Unit 5**(13 Hrs)****Graphs**

Definitions and concepts – Representation of Graphs – Operations- Graph Traversals

TEXT BOOKS

Seymour Lipschutz. Schaums Series Datastructures. New Delhi: Tata McGraw Hill, 2006

Weiss M.A. Data Structures and Algorithm analysis in C. 2nd ed. Pearson Education, 1996.

BOOKS FOR REFERENCE

Goodman S.E. and S.T.Hedetniemi. Introduction to the design and analysis of Algorithms. McGraw Hill, 1998.

Horowitz E. and Sartaj Sahni. Fundamentals of Computer Algorithms. New Delhi: Galgotia Publications, 1999.

PATTERN OF EVALUATION (End Semester Examination – 3 Hrs.)

Theory - 100 marks

Section A

20 x 1 = 20 : Answer all the Questions.
(Ten Multiple choice questions and Ten Fill-up)

Section B

5 x 2 = 10 : Answer all the Questions.
(One question from each unit)

Section C

8 x 5 = 40 : To Answer eight out of ten questions
(Two questions from each unit)

Section D

3 x 10 = 30 : To answer Three out of five questions
(One question from each unit)

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BACHELOR OF COMPUTER APPLICATIONS

SYLLABUS

(Effective from the academic year 2011-2012)

ADVANCED PROGRAMMING WITH C – PRACTICAL

CODE: 11CS/MC/PA22

CREDITS : 2

L T P : 0 0 4

TOTAL HOURS : 52

1. Program to implement basic algorithms.
2. Program to implement Linear Search in a sorted list.
3. Program to implement Binary Search for unsorted numbers.
(Sort the numbers by calling Linear Search function)
4. Program to implement Sorting algorithms:
Insertion sort, Merge sort, Quick sort, Bubble sort and Selection sort.
5. Program to maintain records using structures, pointers and files.
6. Write a program to Perform the Linked List Operations
Insertion (at Beginning, end, middle), Deletion and Display
7. Write a program to implement Circular and Doubly Linked List operations.
8. Write a program to Perform Stack Operations - Push, Pop, Traverse, Top Element
display using pointers and Arrays
9. Write a program to Perform Queue Operations - Insert, delete, Display, Front Element
using pointers and Arrays
10. Write a program to convert an Infix String into Postfix String.
11. Write a program to create a Binary tree and perform the following operations.
Insertion, Display and Search
13. Write a program to perform Preorder, Inorder and Postorder traversal in a Binary
Tree.
13. Write Programs to implement Breadth First Search and Depth First Search

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086
General Elective Course offered by the Department of Computer Science to
B.A / B.Sc / B.Com / B.V.A / B.S.W. Degree

SYLLABUS
(Effective from the academic year 2011 – 2012)

FUNDAMENTALS OF C PROGRAMMING

CODE : 11CS/GE/FC24

CREDITS: 4

L T P: 3 0 1

TOTAL TEACHING HOURS: 52

OBJECTIVES

- To introduce the basics of structured programming using C
- To develop logical and programming skills in students.

Unit 1 (10 Hrs)

1.1 Programming Basics

Introduction to computers – Widely used languages – Development of C – Introduction to C – Programming Preliminaries: Algorithms and Flow chart – Structure of C program.

1.2 C Fundamentals

Character set – Identifiers and Keywords – Data types – Constants – Variables and arrays – Declarations – Expressions – Statements – Symbolic constants.

Unit 2 (8 Hrs)

2.1 Operators and Expressions

Arithmetic – Unary – Relational – Logical – Assignment – Conditional Operators – Library Functions.

2.2 Data Input and Output

getchar() – putchar() – scanf() – printf() – gets() – puts() – Interactive Programming.

Unit 3 (10 Hrs)

Control Statements

While – Do-While – For – Nested Loops – If..else – Switch – Break – Continue – Comma Operator – goto Statement

Unit 4 (12 Hrs)

Arrays and Functions

Arrays-Definition, declaration and initialization and Types of Array- Sorting arrays.
Functions-Basic types of function-Declaration and definition-Function call – Recursion

Unit 5 (12 Hrs)

Structures, Pointers and Strings

Strings-Definition, declaration and initialization of strings-Structures-Definition and declaration- Variables initialization- Nested structures- Union- Definition and declaration-Differentiate between Union and structure. Introduction to Pointers

BOOK FOR STUDY

Balagurusamy. E. Programming with C. Tata McGraw-Hill Publications, 2004.

BOOK FOR REFERENCE:

Byron S. Gottfried. Programming with C- Schaum's Outline Series. New York: McGraw Hill, 2006.

PATTERN OF EVALUATION (End Semester Examination – 3 Hrs.)

Theory - 50 marks Duration -1½hrs
Practical - 50 marks Duration -1½hrs

Theory Exam Pattern :

Section A

10 x 1 = 10 : Answer all the Questions.
(Five Multiple choice questions and five Fill-up)

Section B

5 x 2 = 10 : Answer all the Questions.
(One Question from each unit)

Section C

6 x 5 = 30 : To answer six out of eight questions
(Eight questions to be set, Selecting atleast one question from each unit)

PRACTICAL LIST

1. Write programs to understand the basic concept of C like sum of three numbers, area and circumference of circle, conversion of centigrade to Fahrenheit and vice versa.
2. Write programs to implement if and nested if condition.
3. Write programs to display the result of arithmetic operation using switch case.
4. Write programs to implement while..do, do..while and for statements.
5. Write programs implementing one and two dimensional arrays.
6. Write programs to implement Functions, with parameter passing, return values and recursion.
7. Programs implementing structures and pointers.

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BACHELOR OF COMPUTER APPLICATIONS

SYLLABUS

(Effective from the academic year 2011 – 2012)

PROGRAMMING WITH PERL

CODE: 11CS/GE/PP24

CREDITS: 4

L T P: 3 0 1

TOTAL TEACHING HOURS: 52

OBJECTIVES

- To enable the students understand the concepts of “ Perl ” Programming
- To familiarize how to use programming in day to day Applications.

Unit 1

(6 Hrs)

Introduction to Perl

Basic I/O, Variables & Backslash Interpolation, Scalar/list control operators, operator procedure, if unless, loops, loop control.

Unit 2

(6 Hrs)

Debugging Perl scripts

Debugging commands, Debugger customization, Unattended execution, Debugging support, the perl profiler.

Unit 3

(10 Hrs)

3.1 Built in Function

Perl functions by category: Perl functions in alphabetical order.

3.2 Regular expressions

Pattern Matching, operators, Meta character and meta symbols- Character classes, quantifiers, Pointers, capturing & clustering, Alternation, staying in control.

Unit 4

(15 Hrs)

Subroutines

Syntax, Semantics, parsing references, prototypes, and subroutine attributes. Formats: Format variables, Fosters. References: Creating References, using hard references, symbolic references, Braces, Brackets and quotes.

Unit 5

(15 Hrs)

Data Structure

Arrays of Arrays, Hashes of arrays, Arrays of Hashes-Hashing as function , Elaborate records, Hashes of functions. CGI Programming: CGI Basic, Forms, Methods.

BOOKS FOR REFERENCE

Randal Schwartz and Tom Phoenix and brian d foy. Learning Perl. 4th ed. Publisher O'Reilly & Associates, 2005.

Steven Holzner. Perl Black Book. 1st ed. Publisher Coriolis Group, 1999.

PATTERN OF EVALUATION (End Semester Examination – 3 Hrs.)

Theory - 50 marks Duration -1½hrs
Practical - 50 marks Duration -1½hrs

Theory Exam Pattern :

Section A

10 x 1 = 10 : Answer all the Questions.
(Five Multiple choice questions and five Fill-up)

Section B

5 x 2 = 10 : Answer all the Questions.
(One question from each unit)

Section C

6 x 5 = 30 : To answer six out of eight questions
(Eight questions to be set, selecting at least one question from each Unit)

Practical

1. Write programs implement the basic structure of perl script like Celsius to Fahrenheit, sum of series, odd or even, etc.,
2. Programs to implement control structures and looping concepts
3. Debug the perl script using Debugging commands.
4. Implement programs on built-in functions
5. Write programs to apply pattern matching concept using regular expression
6. Write programs for pointer operation like accessing values from memory, pointer arithmetic operation etc.,
7. Implement programs like call by value, call by reference using subroutines
8. Write programs using symbolic references
9. Write programs using arrays
10. Exercises implementing array of hashes and CGI basics

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SYLLABUS
(Effective from the academic year 2011 – 2012)
ANIMATION – MULTIMEDIA TOOL

CODE:11CS/GE/AM24

CREDITS : 4

L T P : 3 0 1

TOTAL TEACHING HOURS: 52

OBJECTIVES

- To provide an opportunity to pursue skills in Multimedia
- To expose students to tools for designing multimedia applications

Unit 1

(6 Hrs)

1.1 Introduction

What is multimedia? Definition of multimedia- Applications of multimedia- Designing a multimedia project - Multimedia team – Hyper media - Story board- Showing demo of existing packages like encyclopedia.

1.2 Hardware and Software

Multimedia Hardware -Hardware peripherals-Multimedia Software-Authoring tools- Production Standards - Data Compression.

Unit 2

(6 Hrs)

Text and Animation

Fonts, typefaces, kerning- serif and sans serif fonts-Importance of text-Simple Animation, Cel Animation, Computer Animation- Image types -Graphics formats (file types) –Colors and Resolution

Unit 3

(15 Hrs)

Fundamentals of 2D Animation

Flash work environment- Stage- drawing tools and their modifiers- basic drawing techniques- animation- Timeline- Tweening and its types- the power of layers- learning about symbols-libraries- Onion Skinning- text tools-Banners-Masking-Adding sound to movies-Publishing movies.

Unit 4

(15 Hrs)

Action Script

Basic action script - Button behaviors- Navigations- Making presentation using action script- Button event handling.

Unit 5

(10 Hrs)

Mini Project

Mini project using the tool applying all concepts learnt.

BOOKS FOR REFERENCE

Ranjan Parekh. Principles of Multimedia. Tata McGraw Hill Publishing, 2008.

Tay Vaughan. Multimedia Making It Work. Tata McGraw-Hill publishing, 2007.

Todd Perkins. Flash Professional CS5 Bible. Wiley Dreamtech India Pvt Ltd , 2010.

WEB RESOURCES

<http://bestwebdesignz.com/tips/flash-cs4-tutorial/flash-cs4-tutorial/>

<http://www.flashandmath.com/flashcs5/>

<http://www.learningactionscript3.com/>

PATTERN OF EVALUATION (End Semester Examination – 3 Hrs.)

Theory - 50 marks

Practical - 50 marks

Theory Exam Pattern :

Section A

10 x 1 = 10 : Answer all the Questions.
(Five Multiple choice questions and five Fill-up)

Section B

5 x 2 = 10 : Answer all the Questions.
(One question from each unit)

Section C

6 x 5 = 30 : To answer six out of eight questions
(Eight questions to be set, selecting at least one question from each unit)

PRACTICAL LIST

Macromedia Flash

1. Simple animation using motion and shape tween, motion guide and shape hints.
2. Animation using Masking
3. Creating Morphing effects
4. Animation using timeline effects.
5. Motion tween using movie clips.
6. Creating Spot light effects
7. Creating a banners and animated banners.
8. Creating a Slide show of photos
9. Linking to external files and images
10. Playing sound with on/off button
11. Creating a presentation with the given images

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BACHELOR OF COMPUTER APPLICATIONS
SYLLABUS

(Effective from the academic year 2011 – 2012)

CURRENT TRENDS IN IT

CODE: 11CS/UI/CT23

CREDITS: 3

OBJECTIVE

- To expose students to some of the current trends in Information Technology.

Unit 1

Virtual Reality

Virtual Reality and Virtual Environments - The Historical Development of VR - Present uses of virtual reality-3D Computer Graphics , A Generic VR System ,Animating the Virtual Environment ,Virtual Reality Hardware ,Virtual Reality Software, Virtual Reality Applications ,The Future, Social Networking.

Unit 2

Artificial Intelligence and Expert System

Concepts of AI & Expert Systems, Building of Expert system, Merits and Demerits of Expert system, Knowledge acquisition, Knowledge base, Working memory, Inference engine, Expert system shells, Application of expert systems.

Unit 3

Grid Computing

Business values – Risk Analysis – Grid market place. Grid Computing Technology – An Overview: Introduction – History – High performance computing – Cluster computing – Peer-to- Peer Computing – Internet Computing – Grid Computing Model – Grid Protocols – Globus Toolkit – Open Grid Services Architecture - Types of Grids

Unit 4

Introduction to Embedded Systems

Embedded Systems-Processor Embedded into a system, Embedded hardware units and devices in a system-Embedded software in a system- Examples of embedded system- Embedded system-on-chip (Soc) and Use of VLSI Circuit Design Technology- Complex systems design and processors- Design process in embedded system- Formalization of system design- Design process and Design Examples- Classification of Embedded Systems- Skills Required for an Embedded system Designer.

Unit 5

5.1 Cloud Computing

Introduction to Cloud - History – Architecture – Layers – Deployment models - Migrating into a Cloud - Enriching the “Integration as a Service” Paradigm for the Cloud Era - Cloud Computing for Enterprise Applications

5.2. Software as a Service

Introduction- History - Advantages-Implementation-SaaS and SOA, Search Engines.

BOOKS FOR STUDY

Ahmar Abbas. GRID Computing: A Practical guide to technology and applications. Firewall Media, 2008.

John Vince. Virtual Reality Systems. Pearson Education, 1995.

Rajesh Buyya et.al. Cloud Computing Principles and Paradigms. Wiley, 2011

Raj Kamal. Embedded Systems Architecture Programming and Design. 2nd ed. Tata McGraw-Hill, First reprint 2008.

Russell, Peter Norvig. Artificial Intelligence – A Modern Approach. 2nd ed. Pearson Education, 2004.

PATTERN OF EVALUATION (End Semester Examination – 3 Hrs.)

Theory - 100 marks

Section A

20 x 1 = 20 : Answer all the Questions.

(Ten Multiple choice questions and Ten Fill-ups)

Section B

5 x 2 = 10 : Answer all the Questions.

(One question from each unit)

Section C

8 x 5 = 40 : Answer eight out of ten questions

(Two questions from each unit)

Section D

3 x 10 = 30 : Answer three out of five questions

(One question from each unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

**BACHELOR OF COMPUTER APPLICATIONS
SYLLABUS**

(Effective from the academic year 2011 – 2012)

PROGRAMMING IN MULTIMEDIA

CODE : 11CS/UI/PM23

CREDITS: 3

OBJECTIVE

To enable students explore the programming languages in Multimedia tools.

Unit 1

ActionScript

Introduction to ActionScript - A brief history of flash and ActionScript - Navigating the flash timeline - working with events and functions - creating animation with ActionScript - Creating ActionScript in External files

Unit 2

Advanced Concepts in ActionScript

Using ActionScript and components to load content - creating preloader in Action Script - Using arrays and loops - creating a radio button quiz - controlling sound

Unit 3

Authoring Tool

Director workspace- Stage- Score- Property inspector- Cast window- Control panel- Vector shapes and bitmaps- Key frames and Layers -Color- tempo- and transitions- Animations-Film Loops- Markers and Navigation- Behaviors and basic lingo- Adding Interactivity - adding audio and video- Packaging Movies for Distribution.

Unit 4

4.1 The Anatomy of Lingo

Understanding Lingo Logic - Messaging and hierarchy - the message window

4.2 The Elements of scripting

Take the MEGO test - Lingo bits: The elementary elements - Getting a handle-on handlers- Instant Lingo: The Lingo menus

Unit 5

5.1 Building the interactive movie

Blueprinting the experience - proposal to prototype: The VPNR kiosk - Beginning to organize - The flow of function - Building the prototype - Changing the skin - more on buttons

5.2 Advanced Concepts in Lingo

Extending user feedback and control - scripting with timeout properties - scripting idle event handlers - using cursor commands - constraining sprite movement - locking sprites - using alert boxes - installing menus

BOOKS FOR REFERENCE

Braunstein Roger, Wright Mims H, Noble Joshua J. Action Script 3.0 Bible. New Delhi: Wiley, 2008.

Nyquist John R, Martin Rober. Director 8 and Lingo Bible. US: IDG Books World Wide, Inc, 2000

PATTERN OF EVALUATION (End Semester Examination – 3 Hrs.)

Theory - 50 marks Duration -1½hrs

Practical - 50 marks Duration -1½hrs

Theory Exam Pattern :

Section A

10 x 1 = 10 : Answer all the Questions.

(Five Multiple choice questions and five Fill-up)

Section B

5 x 2 = 10 : Answer all the Questions.

(One question from each unit)

Section C

6 x 5 = 30 : To answer six out of eight questions

(Eight questions to be set, Selecting atleast one question from each unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

BACHELOR OF COMPUTER APPLICATIONS

SYLLABUS

(Effective from the academic year 2011-2012)

WIRELESS NETWORKS

CODE: 11CS/UI/WN23

CREDITS: 3

OBJECTIVES

- To enable students learn the basics of Wireless communications technologies.
- To introduce the working principles of wireless LAN and its standards.
- To learn planning and operation of wireless networks.

Unit 1

Wireless Medium

Introduction- Different Generations of Wireless Networks. Characteristics of the Wireless Medium: Radio Propagation Mechanisms, Path Loss Modeling and Signal Coverage, Effect of Multipath and Doppler, Channel Measurement and Modeling Techniques.

Unit 2

Network Planning

Introduction, Wireless Network Topologies, Cellular Topology, Cell Fundamentals, Signal to Interferences Radio Calculations, Network Planning for CDMA Systems. Wireless Network Operations: Mobility Management, Radio Resources and Power Management

Unit 3

Multiple Division Techniques

FDMA, TDMA, CDMA, OFDM, SDMA. Comparison of Multiple Division Techniques, Modulation Techniques – AM, FM, FSK, PSK, QPSK, QAM, 16QAM Mobile Data Networks: Introduction, Data Oriented CDPD Network, GPRS, EDGE and High Data Rates, SMS in GSM, Mobile Application Protocols.

Unit 4

Introduction to Wireless LAN

Evolution of WLAN, Wireless Home Networking, Technologies for Home Area Network (HAN), Overview of IEEE 802.11, Reference Architecture, PHY and MAC Layer, Wireless ATM, HIPERLAN.

Unit 5

Advanced Technology

IEEE 802.15 WPAN, HomeRF, Bluetooth, Interference between Bluetooth and 802.11, Adhoc Networks, Introduction to 2.5 G and 3 G Networks.

BOOKS FOR STUDY

Dr. Kamilo Feher, Wireless Digital Communications. PHI, 1995.

Jochen Schiller, Mobile Communications. Pearson Education, 2008.

Kaveh Pahlava and Prashant Krishnamurthy. Principles of Wireless Networks. PHI, 2004.

Qing- An Zeng and Dharma Prakash Agrawal. Introduction to Wireless and Mobile Systems. Cengage Learning, 2010.

Sumit Kasera, Nishit Narang, A P Priyanka. 2.5 G Mobile Networks: GPRS and EDGE. TMH, 2006.

PATTERN OF EVALUATION (End Semester Examination – 3 Hrs.)

Theory - 100 marks

Section A

20 x 1 = 20 : Answer all the Questions.

(Ten Multiple choice questions and Ten Fill-up)

Section B

5 x 2 = 10 : Answer all the Questions.

(One question from each unit)

Section C

8 x 5 = 40 : To answer eight out of ten questions

(Two questions from each unit)

Section D

3 x 10 = 30 : To answer Three out of five questions

(One questions from each unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

**General Elective Course offered by the Department of Computer Science to
B.A / B.Sc / B.Com / B.V.A / B.S.W. Degree**

SYLLABUS

(Effective from the academic year 2011 – 2012)

WEB PAGE DESIGNING

CODE: 11CS/GE/WD32

CREDITS : 2

L T P : 1 0 1

TOTAL TEACHING HOURS: 26

OBJECTIVES

- To help the students understand web page designing.
- To introduce the students about Web Designing Techniques using Editor.

Unit 1

(6 Hrs)

1.1 Navigation

Understand the interface - the menu bar, tool bar, view bar, main window area, the folder list bar, the navigation pane, the task pane. Use page view – normal page view, html page view, preview page view. Create a New Web Page - Add text to a web page - Format Text

1.2 Lists

Create a bulleted list, change the bullet style – create a numbered list, change the numbering format – specify a bullet picture.

1.3 Correct spelling with the spell checker

Find and replace text – Apply paragraph styles – format paragraph with the Paragraph Dialog Box – Set up borders and shading, Front Page.

Unit 2

(10 Hrs)

2.1 Add graphics to your web page

Comprehend graphic formats – find graphics – store graphics on your web site – Add graphics from a file – insert clip art and sound – add horizontal lines – modify an image using front page graphic tool – flip and rotate a graphic – adjust brightness and contrast – crop an image - make an image larger or smaller

2.2 Adding shapes and photos

Create shapes with drawing tool – create a drawing – add shapes to the drawing – move and size shapes – work with multiple shapes – Add photos to the web site with the photo gallery.

Unit 3

(10 Hrs)

3.1 Working with tables

Insert a table - from the standard toolbar, from the table menu – draw a table - split a table into a multiple table - add content to cells - work with rows and columns - work with cells – auto format a table - add a table caption - convert text to tables - tables to text - create a table from a word table, excel spreadsheet.

3.2 Build hyperlinks

Understand and use hyperlinks - What are hyperlinks? - add text hyperlinks to pages in your web site - create links to external web sites - formatting hyperlinks - build a graphic hyperlink - modify and delete hyperlinks - create hyperlinked text buttons

BOOK FOR STUDY

David Plot kin. How to do everything with Microsoft Office Front Page 2003?. Microsoft Edition, 2003.

PATTERN OF EVALUATION (Totally Internal)

CONTINUOUS ASSESSMENT (CA): One Hour Test – 25 Marks
One Component – 25 Marks

This is will be converted to 100 Marks by Controller of Examination

PRACTICAL LIST

1. Design a web page displaying your resume implementing bulleted and numbered Lists
2. Design a Home Page using bgcolor, text color & list.
3. Design a webpage to describe about flowers, with appropriate graphics and explanations.
4. Create a shape and include it in your web site. Add photos using photo gallery.
5. Design a webpage implementing Tables and apply proper formatting styles.
6. Design three web pages and provide a link to all of the web pages with the hyperlinks.

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

**General Elective Course offered by the Department of Computer Science to
B.A / B.Sc / B.Com / B.V.A / B.S.W. Degree**

SYLLABUS

(Effective from the academic year 2011 – 2012)

ADVANCED OFFICE MANAGEMENT

CODE: 11CS/GE/AO32

CREDITS: 2

L T P: 1 0 1

TOTAL TEACHING HOURS: 26

OBJECTIVES

- To introduce word processing.
- To provide the students understanding of spreadsheets.
- To equip the students with skills and knowledge necessary to create a presentation.

Unit 1

(10 Hrs)

Word Processing

Text Editing, Text tools, Character and paragraph formatting, Tabs and lists, Using Tables, Mail Merge, Working with objects – Word Art, Clip Art, Pictures, Built-in and custom styles, Table of contents, Templates, Securing documents. Tool: MS-Word

Unit 2

(8 Hrs)

Spreadsheet

Data entry, Using formulae and functions, Formatting data, Creating charts, Lists, Sorting, filtering, Working with forms, Grouping, Linking and Protecting sheets, Data Validation, Printing spreadsheets. Tool: MS-Excel

Unit 3

(8 Hrs)

Presentation

Creating slides, Using bullets, Formatting slides, Including word art, Slide templates, Drawing tools, Selecting and grouping objects, Viewing slides and handouts, Transitions, Spell check, Master Slide, Rehearse timings, Adding sound. Tool: MS-PowerPoint

BOOKS FOR REFERENCE

Curtis Frye D. Microsoft Excel 2010 Step by Step. Microsoft Press, 2010.

Faithe Wempen. Microsoft PowerPoint 2010 Bible. John Wiley & Sons, 2010.

Herb Tyson. Microsoft Word 2010 Bible. John Wiley & Sons, 2010.

PATTERN OF EVALUATION (Totally Internal)

CONTINUOUS ASSESSMENT (CA): One Hour Test – 25 Marks
One Component – 25 Marks

This is will be converted to 100 Marks by Controller of Examination

PRACTICAL LIST

Word Processing

1. Create an Application with different formatting styles..
2. Create Tables, using different formatting styles.
3. Create word documents implementing Clip art, Word art and Auto shapes.
4. Create a table of contents for a magazine.

Spreadsheet

1. Create Spreadsheets with various formatting styles.
2. Create Spreadsheet to include formula and implement the same using different graphs and charts.
3. Create a spreadsheet that incorporates data validation.

Presentation

1. Create a presentation that displays a clear, logical sequence.
2. Create a presentation that incorporates animations.
3. Create bulleted slides and slides that incorporate word art.
4. Create a presentation that incorporates drawing tools.

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086
BACHELOR OF COMPUTER APPLICATIONS
SYLLABUS

(Effective from the academic year 2011-2012)

COMPUTER ORGANIZATION AND NETWORK FUNDAMENTALS

CODE: 11CS/MC/CN34

CREDITS: 4

LTP: 4 1 0

TOTAL TEACHING HOURS: 65

OBJECTIVES

- To enable students to understand the structure, function and characteristics of computer systems
- To help them understand the design of the various functional units of digital computers
- To introduce the students to basics of networking concepts.

Unit 1

(12 hrs)

1.1 Introduction to Computer System

Introduction – Types of Software – Operating System – Machine – Assembly – High level languages – Different Generation of Programming languages – Assembler – compiler – Interpreter – Loader – Linker.

1.2 Computer System Hardware

Introduction – Central Processing unit – Memory unit – Instruction Format – Instruction cycle – Microprocessor – Interconnecting the units of a computer – Performance of a computer – Inside a Computer cabinet.

Unit 2

(13 hrs)

2.1 Computer Memory

Introduction – Memory Representation - Memory hierarchy – CPU registers – Cache memory – Primary Memory – Secondary Memory – Access type of storage device – Magnetic Tape – Magnetic disk – Optical Disk

2.2 Input and Output Devices

Input Devices – Keyboard- Pointing Devices – Pick Devices

Output Devices – Printer – Plotter –Computer output on micro film – Monitor – Visual Display terminal

Unit 3

(14 hrs)

3.1 Data Representation

Introduction – Number System – Representation of a number as binary, octal, hexadecimal - Conversion from Decimal to Binary, octal , Hexadecimal – Conversion from binary to decimal, octal , hexadecimal - Conversion from octal to decimal, binary, hexadecimal – Conversion from hexadecimal to decimal, binary, octal – Binary Arithmetic – Signed and unsigned numbers – Binary Coding Schemes – Logic Gates

3.2 Central Processing unit

Introduction – General Register Organization – Instruction Formats- Data Transfer and Manipulation Instructions - Addressing Modes

Unit 4 (13 hrs)

4.1 Input-Output Organization

Input-Output Interface – Asynchronous Data Transfer – Mode of Transfer – Direct Memory Access

4.2 Memory Organization

RAM/ROM- Main memory- Associative memory- Cache memory- Virtual memory.

Unit 5 (13 hrs)

Network Fundamentals

Introduction , Physical Structure, Data Communication, Topology - bus, mesh, ring, star, hybrid, Categories of Network-LAN,WAN,MAN, Connecting devices - Passive hubs, Active hubs, Repeaters, Bridges, Two layer switches, Routers, Gateway, Analog and Digital Data – Interconnection of Networks – What Is Workgroup, client server, domain.

BOOKS FOR STUDY

Behrouz Forouzan. Data Communications and Networking. Tata McGraw-Hill Publishers, 2006.

Goel Anita. Computer Fundamentals. Dorling Kindersley (India),Pvt. Ltd, 2010.

Morris Mano M. Computer System Architecture. 3rd ed.Prentice Hall India, 2004.

BOOKS FOR REFERENCE

Carl Hamacher, Zvonko Vranesic and Safwat Zalky. Computer Organization. 5th ed. Tata McGraw Hill, 2002

John P.Hayes . Computer Architecture & Organization. 3rd Ed. McGraw Hill, 1998

William Stallings, Computer Organization & Architecture-Design for Performance. 6th ed. Pearson Education, 2003

PATTERN OF EVALUATION (End Semester Examination – 3 Hrs.)

Theory - 100 marks

Section A

20 x 1 = 20: Answer all the Questions.

(Ten Multiple choice questions and Ten Fill-up)

Section B

5 x 2 = 10: Answer all the Questions.

(One question from each unit)

Section C

8 x 5 = 40: To answer eight out of ten questions

(Two questions from each unit)

Section D

3 x 10 = 30: To answer Three out of five questions

(One question from each unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

BACHELOR OF COMPUTER APPLICATIONS

SYLLABUS

(Effective from the academic year 2011 – 2012)

RELATIONAL DATABASE MANAGEMENT SYSTEMS - PRACTICAL

CODE: 11CS/MC/PD32

CREDITS : 2

L T P: 0 0 4

TOTAL HOURS: 52

1. Creating tables for various relations and altering the schema.
2. Implementing the queries in Oracle for
Insertion, Updation, Deletion, Truncate, Drop and Retrieval
3. Retrieval using aggregate functions, set operations, sub queries, joins,
4. Implementing Normalization on tables (Till BCNF)
5. Creating and Handling Views and synonyms.
6. Creating and implementing Triggers.
7. Generating Sequence
8. Implementing Procedures and Cursor on tables using PL/SQL.
9. Implementing Exception Handling
10. Implementing basic concepts of ORDBMS

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

BACHELOR OF COMPUTER APPLICATIONS

SYLLABUS

(Effective from the academic year 2011-2012)

WEB PROGRAMMING - PRACTICAL

CODE: 11CS/MC/PW32

CREDITS: 2

L T P: 0 0 4

TOTAL HOURS: 52

1. Designing web page with focus on tables, frames and layers using HTML coding.
2. Designing web page with focus on forms and hands on experience on different page layouts, web pages with interactivity using HTML coding.
3. Design homepage with the following html features:
 Fonts, headings, list, Anchor tag and Image linking
4. Explore and learn web designing of the above concepts using the tool Dreamweaver. Practice on layouts, div tag, navigations, CSS using the tool
5. Design web page with JavaScript to implement Text, Number, Date and Email id Validations.
6. Practice on events in JavaScript.
7. Create a web page to implement data with arrays.
8. Use JavaScript to process user inputs and display messages incorporating System Time.
9. Programs implementing JavaScript objects.
10. Write an ASP script to implement get and post methods.
11. Write ASP scripts to perform: Store, Retrieve, Search, Update operations using database connectivity

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

BACHELOR OF COMPUTER APPLICATIONS

SYLLABUS

(Effective from the academic year 2011-2012)

RELATIONAL DATABASE MANAGEMENT SYSTEMS

CODE: 11CS/MC/RD34

CREDITS : 4

L T P : 4 0 0

TOTAL TEACHING HOURS :52

OBJECTIVES

- To expose the students to the basics of Database Management.
- To train the students in efficient database design using Normalization.
- To make students aware of basic SQL Queries.

Unit 1

(9 Hrs)

Introduction to Database Systems

Purpose of database systems – Data Abstraction – Data Models – Instances and Schemas - Data Independence – DDL – DML – Database Manager – Database Administrator – Database Users – Overall System Structure.

Unit 2

(10 Hrs)

2.1 Entity Relationship Model

Entities and Entity Sets – Relationships and Relationship Sets – Attributes – Mapping Constraints – Keys – ER Diagrams

2.2 Relational Model

Structure of Relational Databases - Basic SQL – select - create – alter – drop – insert – delete – update.

Unit 3

(10 Hrs)

3.1 Set Operations

Set operators, Joins – Kinds of joins, Table aliases, Sub queries. Functions – Single Row, Date, Character, Numeric, Conversion, Group functions- Synonym, Sequence, Views, Index – Unique, Composite.

3.2 Integrity Constraints

Domain Constraints- check – not null – entity integrity – referential Integrity.

Unit 4

(13 Hrs)

4.1 Relational Database Design

First Normal form - Pitfalls –Functional Dependency – second normal form - Dependency Preservation – Normalization using functional properties – Third Normal Form – Boyce Codd Normal Form – Codd's rule - Mapping Relational data to files – Data Dictionary.

4.2 PL/SQL Blocks

PL/SQL, Architecture of PL/SQL, Data Types and their usage, Control Structures, Pre defined exception and User defined Exceptions.

Unit 5

(10 Hrs)

5.1 Cursors and Triggers

Cursors - cursor management, Procedures, Functions. Database Triggers, Parts of a Trigger, Types of Triggers.

5.2 Introduction to ORDBMS

ORDBMS Vs RDBMS, Abstract Data types, Varying arrays, Nested Tables. Basics of Data on the Web

BOOKS FOR STUDY

Abraham Silberschatz, Henry F Korth, S. Sudarshan. Database System Concepts. McGraw Hill Publications, 1998.

George Koch and Kevin Loney. Oracle 11g The Complete Reference. Oracle Press, 2008.

Ivan Bayross, Teach Yourself SQL/PL SQL Using Oracle 8i and 9i with SQLJ. BPB Publications, 2003.

BOOKS FOR REFERENCE

Raghu Ramakrishnan & Johanner Gehrke. Database Management Systems. 2nd ed. McGraw Hill Publications, 2000.

PATTERN OF EVALUATION (End Semester Examination – 3 Hrs.)

Theory - 100 marks

Section A

20 x 1 = 20 : Answer all the Questions.
(Ten Multiple choice questions and Ten Fill-up)

Section B

5 x 2 = 10 : Answer all the Questions.
(One question from each unit)

Section C

8 x 5 = 40 : To answer eight out of ten questions
(Two questions from each unit)

Section D

3 x 10 = 30 : To answer Three out of five questions
(One questions from each unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

BACHELOR OF COMPUTER APPLICATIONS

SYLLABUS

(Effective from the academic year 2011-2012)

WEB PROGRAMMING

CODE: 11CS/MC/WP34

CREDITS: 4

L T P: 4 0 0

TOTAL TEACHING HOURS: 52

OBJECTIVES

- To introduce students the basic concepts of web page design
- To train students in designing static and dynamic web pages.

Unit 1

(10 Hrs)

1.1 HTML

HTML rules, Structure of HTML documents - limitations of HTML. Formatting HTML page using standard tags, marquee, br, hr, pre, Lists, Tables, Forms, Frames, img, anchor tags.

1.2 Web page Design Principles

Design principles - Introduction to Dreamweaver - Effective Page Layouts - Layout options: Formatting, Using tables, layers, frames; Working with forms; Using CSS to add interest and flexibility to a design - making navigation easy: Bread crumbs; Links, embedded and external; Site Management: Site organization: Organizing associated files

Unit 2

(10 Hrs)

Java Script

Introduction to Java Script - Origin of Java Scripting, Characteristics, JavaScript and Java, Embedding JavaScript. Variables in JavaScript - Definition of a variable, Scope of a variable, Operators, Expression and Comments. Controlling Program Flow - if ...else, switch, while, do ... while, for, break statement, continue statement. Implementation using Dreamweaver

Unit 3

(10 Hrs)

3.1 Objects

Object Hierarchy Model- Window object, Document object, Location object- Introduction to String object, Math and Boolean object, Date object.

3.2 Exception handling

Handling errors by using try, throw and catch statements.

Unit 4 (10 Hrs)

4.1 Introduction to Web Server

Creating virtual directory – Setting up the properties - Granting permissions.

4.2 ASP as a server side scripting language

Intrinsic objects – Application, Session, Request, Response, Server and ASP Error object.
Methods - Events and collections of Intrinsic Objects.

Unit 5 (10 Hrs)

ASP Components

Introduction to ASP components, Using ADODB Component with the Server Object for connecting to the backend.

Guest Lecture on Content Management (2 Hrs)

BOOKS FOR STUDY

Danny Goodman. JavaScript Bible. Fourth ed. Wilky Dreamtech Pvt, Ltd, 2001

Jason Beard. The Principles of Beautiful Web design. 1st ed. SitePoint, 2010.

Robert W. Sebesta. Programming the world wide web. 3rd ed. Pearson education, 2001.

Thomas A Powell. HTML The Complete Reference. 3rd ed. TMH, 2002.

PATTERN OF EVALUATION (End Semester Examination – 3 Hrs.)

Theory - 100 marks

Section A

20 x 1 = 20: Answer all the Questions.
(Ten Multiple choice questions and Ten Fill-up)

Section B

5 x 2 = 10: Answer all the Questions.
(One question from each unit)

Section C

8 x 5 = 40: To answer eight out of ten questions
(Two questions from each unit)

Section D

3 x 10 = 30: To answer three out of five questions
(One question from each unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

BACHELOR OF COMPUTER APPLICATIONS

SYLLABUS

(Effective from the academic year 2011 - 2012)

OBJECT ORIENTED PROGRAMMING WITH JAVA

CODE: 11CS/MC/OP44

CREDITS: 4

L T P: 4 0 0

TEACHING HOURS: 52

OBJECTIVES

- To introduce the basic concepts of Object Oriented Programming.
- To expose students to new concepts such as Packages, Interfaces , Exceptions and threads .

Unit 1 (8 Hrs)

Introduction to Object Oriented Programming

Evolution of java, Java Language Features, Data types, variables, Arrays, Operators, and Control statements - OOPS Concepts - Handling inputs using Scanner class, String class

Unit 2 (11 Hrs)

Classes and objects

More on classes and objects, method overloading, constructors, constructor overloading, usage of static with data and methods, usage of final with data, methods and classes, garbage collection, access control, recursion, nested classes, inner classes

Unit 3 (12 Hrs)

3.1 Inheritance

Concepts, composition, difference between inheritances in java, usage of super keyword, method overriding, abstract classes, dynamic method dispatch

3.2 Packages

Concepts - Package and import keywords - Class path –Defining - Creating and accessing a package.

Unit 4 (10 Hrs) 4.1

Interfaces

Creating Interfaces - Differences between classes and interfaces, Application of interfaces, Multiple inheritance in Java, extending and initializing fields in interfaces.

4.2 Exception Handling

Concept of exception handling, types of exceptions, usage of try, catch, throw, finally keywords

Unit 5 (11 Hrs)

5.1 Multithreading

Concepts of multithreading, life cycle of a thread, synchronization, thread priorities, inter thread communication, deadlocks.

5.2 Java Library

String handling, Java.util – Vector, Random, Date, Collection, Comparator, Enumeration, List, Iterator, HashTable, StringTokenizer classes, Java.io – File Streams.

BOOK FOR STUDY

Herbert Schildt & Parick Naughton. The Complete Reference Java 2.0. 5th ed. McGraw Hill Publications, 2004.

BOOKS FOR REFERENCE

Bruce Eckel. Thinking in Java. Prentice Hall, 1999.

Ivor Horton. Beginning in Java 2.0. Wrox Publications, 2005.

James Gosling. The Java Language Specification. 2nd ed. Pearson Education, 2000.

Patrick Naughton. The Java Handbook. 3rd ed. Tata McGraw Hill Publications, 1997.

WEB RESOURCES

<http://download.oracle.com/javase/tutorial>

<http://www.tutorialspoint.com/java/index.htm>

<http://www.java2s.com/Tutorial/Java/CatalogJava.htm>

PATTERN OF EVALUATION (End Semester Examination – 3 Hrs.)

Theory - 100 marks

Section A

20 x 1 = 20: Answer all the Questions.

(Ten Multiple choice questions and Ten Fill-up)

Section B

5 x 2 = 10: Answer all the Questions.

(One question from each unit)

Section C

8 x 5 = 40: To answer eight out of ten questions

(Two questions from each unit)

Section D

3 x 10 = 30: To answer Three out of five questions

(One question from each unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

BACHELOR OF COMPUTER APPLICATIONS

SYLLABUS

(Effective from the academic year 2011 - 2012)

OBJECT ORIENTED PROGRAMMING WITH JAVA - PRACTICAL

CODE: 11CS/MC/PO42

CREDITS : 2

L T P : 0 0 4

TOTAL HOURS : 52

1. Exercises based on basics in JAVA

Control structures - Creating classes, compiling and executing them - Creating instances for classes - String class - Handling Input using Scanner class.

2. Exercises based on Classes and Objects

- Classes with member variables and methods to access the variables
- Create class with overloaded methods with practice on typecasting.
- Creating constructors.
- Creating a class with multiple version of constructors - Static data and methods.
- Create final member variables: assigning values during runtime
- Practice on Access control: public, private, protected, no modifier - Nested classes - Inner classes.

3. Exercises based on Inheritance

- Creating classes to demonstrate composition and inheritance in java
- Multilevel Inheritance - Use of 'Super' keyword and 'this' keyword inherited classes
- Create subclasses that override method of super class
- Create a final class and final methods.
- Create an abstract class overriding methods in sub classes.
- Dynamic method dispatch.

4. Exercises based on Packages

- Creating a package.
- Creating classes within the package.
- Compiling and executing a class that exists within the package.
- Importing packages that exist in a different package.

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

BACHELOR OF COMPUTER APPLICATIONS

SYLLABUS

(Effective from the academic year 2011 – 2012)

SOFTWARE ENGINEERING

CODE: 11CS/MC/SE44

CREDITS: 4

L T P: 4 1 0

TOTAL TEACHING HOURS: 65

OBJECTIVE

- To train the students to analyze, estimate and design new software with quality standards.

Unit 1

(12 Hrs)

1.1 Introduction to Software Engineering

Definitions - Size factors – Quality and Productivity factors – Managerial Issues – Overview of the Text.

1.2 Planning a Software Project

Defining the Problem – Developing a solution strategy – Planning the Development Process – Planning an organizational Structure – Other Planning Activities.

Unit 2

(12 Hrs)

2.1 Software Cost Estimation

Software Cost Factors – Software Cost Estimation Techniques – Staffing Level Estimation – Estimating Software Maintenance Costs.

2.2 Software Requirements Definition

The Software Requirements Specification – Formal Specification Techniques – Languages and Processors for Requirements Specification.

Unit 3

(13 Hrs)

Software Design

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 – Design Guidelines.

Unit 4

(15 Hrs)

4.1 Implementation Issues

Structured Coding Techniques – Coding Style – Standards and Guidelines – Documentation Guidelines.

4.2 Modern Programming Language Features

Type Checking – Separate Compilation – User Defined Data Types – Data Abstraction – Scoping Rules – Exception Handling – Concurrency Mechanisms.

Unit 5

(13 Hrs)

5.1 Verification and Validation Techniques

Quality Assurance – Walkthroughs and Inspections – Static Analysis – Symbolic Execution – Unit Testing and Debugging – System Testing – Formal Verification.

5.2 Software Maintenance

Enhancing Maintainability during Development – Managerial Aspects of Software Maintenance – Configuration Management – Source-Code Metrics – Other Maintenance Tools and Techniques.

BOOK FOR STUDY

Richard Fairley. Software Engineering Concepts. Tata McGraw Hill International Editions, 1997.

BOOKS FOR REFERENCE

James A. Senn. Analysis and Design of Information System. McGraw-Hill, 2004.

Roger S. Pressman. Software Engineering – A Practitioner's Approach. 6th ed. McGraw Hill International Editions, 2005.

PATTERN OF EVALUATION (End Semester Examination – 3 Hrs.)

Theory - 100 marks

Section A

20 x 1 = 20 : Answer all the Questions.
(Ten Multiple choice questions and Ten Fill-up)

Section B

5 x 2 = 10 : Answer all the Questions.
(One question from each unit)

Section C

8 x 5 = 40 : To Answer eight out of ten questions
(Two questions from each unit)

Section D

3 x 10 = 30 : To answer Three out of five questions
(One question from each unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

BACHELOR OF COMPUTER APPLICATIONS

SYLLABUS

(Effective from the academic year 2011 – 2012)

**MULTIMEDIA SYSTEMS
(Skill Development Course)**

CODE: 11CS/ME/MS43

CREDITS: 3

L T P: 2 0 2

TOTAL TEACHING HOURS: 52

OBJECTIVES

- To provide an opportunity to pursue skills and applications in Multimedia
- To expose students to tools for designing multimedia applications

Unit 1

(6 Hrs)

1.1 Introduction

What is multimedia? Definition of multimedia- Applications of multimedia- Designing a multimedia project - Multimedia team – Hyper media - Story board.-Showing demo of existing packages like encyclopedia.

1.2 Hardware and Software

Multimedia Hardware - Hardware peripherals - Multimedia Software - Authoring tools - Production Standards. Data Compression.

Unit 2

(6 Hrs)

Text and 2D Animation

Fonts, typefaces, kerning- serif and sans serif fonts-Importance of text-Simple Animation, Cel Animation, Computer Animation- Image types -Graphics formats (file types) – Colors and Resolution

Unit 3

(14 Hrs)

Image Editing

Starting to know the work area- Introduction to various tools- palettes- layers- working with layers- saving the files- color theory- painting and editing the images- adding text- simple image repair techniques- Filters and special effects-Photoshop

Unit 4

(14 Hrs)

Animation Tool

Flash work environment- Stage- drawing tools and their modifiers- basic drawing techniques- animation- Timeline- Tweening and its types- the power of layers- learning about symbols- libraries- Onion Skinning- text tool- basic action scripting-button behaviors-Navigation-Making presentation using action script-Communicating with symbols instances-Instance properties and

methods-Dynamic input and text-Events-Button event handling-Adding sound to movies- Shock wave files-Publishing movies. Using Flash with XML

Unit 5

(10 Hrs)

5.1 3D Animation

Introduction to 3D animation- Demo using 3D StudioMax and Maya- kinematics- inverse kinematics.

5.2 Sound and Video

Audio formats -Sampling rates-Mono/Stereo Midi- digital audio- recording techniques- adding sound to multimedia- broadcasting standards- video formats -difference between computer and television video- Conversion from VGA to PAL.

Work Shop on Action Scripting

(2 Hrs)

BOOKS FOR REFERENCE

Lisa DaNae Dayley, Brad Dayley. Photoshop CS 5 Bible. Wiley Dreamtech India Pvt Ltd, 2010.

Ranjan Parekh, Principles of Multimedia. Tata McGraw Hill Publishing, 2008.

Tay Vaughan. Multimedia Making It Work. 7th ed. Tata McGraw-Hill Publishing, 2007.

Todd Perkins. Flash Professional CS5 Bible. Wiley Dreamtech India Pvt Ltd, 2010.

WEB RESOURCES

www.photoshopgurus.com

www.entheosweb.com

www.photoshopessentials.com

<http://bestwebdesignz.com/tips/flash-cs4-tutorial/flash-cs4-tutorial/>

<http://www.flashandmath.com/flashcs5/>

PATTERN OF EVALUATION (End Semester Examination – 3 Hrs.)

Theory - 50 marks Duration -1½hrs

Practical - 50 marks Duration -1½hrs

Theory Exam Pattern:

Section A

10 x 1 = 10: Answer all the Questions.

(Five Multiple choice questions and five Fill-up)

Section B

5 x 2 = 10: Answer all the Questions.

(One question from each unit)

Section C

6 x 5 = 30: To answer six out of eight questions

(Eight questions to be set, selecting at least one question from each unit)

PRACTICAL LIST

Adobe Photoshop

1. Creating a Collage.
2. Designing Logo, Banners, Advertisements in website.
3. Creating background.
4. Designing Poster, Broucher, magazine front page and CD cover
5. Retouching an old photograph and face make over.
6. Photo Enhancement using Image adjustments.
7. Applying layer styles.
8. Making images artistic using filters.
9. Adding text effects to images.

Macromedia Flash

12. Simple animation using motion and shape tween, motion guide and shape hints.
13. Animation using Masking
14. Creating Morphing effects
15. Animation using timeline effects.
16. Motion tween using movie clips.
17. Creating Spot light effects
18. Creating a Slide show of photos
19. Linking to external files and images
20. Playing sound.
21. Learning basic action scripting
11. Creating a presentation with the given assets

Third Component

Develop an application using the above tools - Creating a mini project in the specific area.

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BACHELOR OF COMPUTER APPLICATIONS

SYLLABUS

(Effective from the academic year 2011-2012)

PHP PROGRAMMING

(Skill development course)

CODE: 11CS/ME/PH43

CREDITS: 3

L T P: 2 0 2

TOTAL TEACHING HOURS: 52

OBJECTIVES

- To expose students to web programming language
- To enhance the students' knowledge with respect to website development

Unit 1

(12 Hrs)

1.1 Why PHP and MySQL - What is PHP? - What is MySQL - The History of PHP-The History of MySQL - Reasons to Love PHP and MySQL.

1.2 Server –Side Web Scripting - Static HTML - Client-Side Technologies - Server-side scripting - What Is Server-side Scripting Good for - Adding PHP to HTML.

1.3 Syntax and Variables -PHP's Syntax is C-Like - Comments-Variables - Types in PHP - The simple Types-Output.

1.4 Control - Boolean Expressions - Branching- Looping.

Unit 2

(12 Hrs)

2.1 Functions - Using Functions -Function Documentation - Defining Your own Functions - Functions and variable Scope - Function Scope

2.2 Passing Information between Pages - HTTP is stateless - GET Arguments - A better Use for GET - Style URLs – POST Arguments - Formatting Form Variables - PHP Super global Arrays.

2.3 String - Strings in PHP – String Functions

2.4 Arrays and Array Functions - The Uses of Arrays - Creating Arrays - Retrieving Values - Multidimensional Arrays

2.5 Numbers - Numerical Types - Mathematical Operators - Simple Mathematical Functions

Unit 3

(8 Hrs)

Object Oriented Programming with PHP

What is Object Oriented Programming-Basic PHP Constructs for OOP-Advanced OOP Features - OOP style in PHP

Unit 4

(12 Hrs)

4.1 Sessions, Cookies, and HTTP: What is a Session - How session Work in PHP - Session Functions –Cookies - Sending HTTP Headers - Types and Type Conversions

4.2 Advanced Use of Functions: Variable Numbers of Arguments-Call by Value-Call by Reference

Unit 5

(8 Hrs)

Data Access using PHP

Connecting to the Database server – Selecting a database – Adding data to a table – Changing data

BOOKS FOR STUDY

Sascha Schumann and Deepak Veliath. Professional PHP programming. Wrox, 1999.

Tim Converse and Joyce Park with Clark Morgan. PHP 5 and MySQL Bible. Wiley India Pvt.Ltd., 2008

BOOKS FOR REFERENCE

Michael K.Glass,Yann Lee Scourarnec,Elizabeth Naramore,Gary Mailer, Jeremy Stolz, Jason Gerner, Programming PHP,Apache,MySQL Web Development. 1st ed. WILEY, 2004

Rasmus Lerdorf and Kevin Tatroe. Programming in PHP. O'Reilly and Associates, 2002.

PATTERN OF EVALUATION (End Semester Examination – 3 Hrs.)

Theory - 50 marks Duration -1½hrs

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Theory Exam Pattern:

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Section C

6 x 5 = 30: To answer six out of eight questions

(Eight questions to be set, Selecting atleast one question from each unit)

PRACTICAL LIST

1. Create a HTML form to build an online application using password protection.
2. Create a HTML page using anchor links receiving input from the user, calculate Fibonacci series, factorial, reversing a number, summation of n numbers and display the result.
3. Create a Form and validate the fields using strlen(), empty(), is_numeric().
4. Write programs to implement inheritance, session, and cookie.
5. Write programs to implement call by value and call by reference.
6. Write programs implementing the database connectivity to add, search, delete and update.

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BACHELOR OF COMPUTER APPLICATIONS

SYLLABUS

(Effective from the academic year 2011-2012)

ADVANCED JAVA PROGRAMMING – J2EE

CODE: 11CS/MC/AJ54

CREDITS: 4

L T P: 4 0 0

TOTAL TEACHING HOURS: 52

OBJECTIVES

- To introduce students to multi-tier, object-oriented, Web based application
- To enable students to create and implement applications using Applets, Servlets, Enterprise JavaBeans

Unit 1

(12 Hrs)

1.1 Applet

Basics - architecture - Life cycle – Display Methods – Repaint – using status window – HTML Applet Tag – Passing Parameters to Applets. Introduction to AWT – Window Fundamentals- Graphics – Color - Font

1.2 Swing

JApplet – JFrame – JPanel – Icons and Labels – Text Fields – JButton- Radio button – check boxes –Combo Boxes – Tabbed panes – Scroll pane – Trees – Tables – MenuBar, JSpinner, File Chooser, Progress Bar, Tool Bar, Layout Managers

Unit 2

(12 Hrs)

2.1 Event handling

Delegation Event model, Event Classes, Event Listener Interfaces, Adapter and Inner Classes

2.2 JDBC

Database Connectivity - Types of JDBC drivers - Executing statements - Prepared statements and callable statements - Mapping SQL types to Java - ResultSet Metadata.

Unit 3

(12 Hrs)

3.1 Introduction to J2EE

Tiered model architectures – principles and goals, J2EE definition and characteristics, J2EE technologies in a multi-tier architecture

3.2 Servlet Technology

Need for servlets, Characteristics of servlets, Comparison between servlets and applets, comparison between servlets and other server side scripting languages, working of servlet, javax.servlet package, Life Cycle of servlet, Deploying servlet. Servlet Sessions, Session Tracking, javax.servlet.http.Cookie class, Interservlet communication – Request Dispatcher interface.

Unit 4

(8 Hrs)

4.1 Java Server Pages

What is JSP? - Comparison between JSP and Servlets - Life Cycle - Structure - Components – JSP Tags – JSP Session - Static content - Dynamic content – Scripting Elements, Database Access

4.2 JSP Custom Tags

Defining and Using Custom Tags

Unit 5

(8 Hrs)

5.1 EJB

Introduction to EJB. Session Bean, Entity Bean. Stateful and Stateless Bean.

Introduction to Bean Managed persistence.

5.2 CMP Entity Bean

Characteristics of CMP Entity Beans. Difference between BMP and CMP. Life Cycle of CMP bean. Container Managed Relationships. Message-Driven Beans - MDB

BOOKS FOR STUDY

Jason Hunter and William Crawford. Java Servlet Programming. 2nd ed. O'Reilly Publications, 2007.

Patrick Naughton and Herbert Schildt. Java 2 Complete Reference. McGraw Hill, 2002.

Rima Patel Sriganesh, Gerald Brose, Micah Silverman. Mastering Enterprise JavaBeans 3.0, Wiley India Edition, 2006.

BOOKS FOR REFERENCE

Mary Campione and Kathy Walnath. Java Tutorial Continued. Pearson Education Asia, 2000.

ED Roman. Mastering EJB. Wiley Publication, 2004.

WEB RESOURCES

<http://download.oracle.com/javase/tutorial>

www.java2s.com/Tutorial/Java

www.roseindia.net

www.javabeginner.com

www.tutorialspoint.com/java/index.htm

PATTERN OF EVALUATION (End Semester Examination – 3 Hrs.)

Theory - 100 marks

Section A

20 x 1 = 20: Answer all the Questions.

(Ten Multiple choice questions and Ten Fill-up)

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(One question from each unit)

Section C

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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

BACHELOR OF COMPUTER APPLICATIONS

SYLLABUS

(Effective from the academic year 2011 - 2012)

OPERATING SYSTEMS

CODE: 11CS/MC/OS54

CREDITS : 4

L T P : 4 1 0

TOTAL TEACHING HOURS: 65

OBJECTIVES

- To give an overview of components of an operating system
- To understand the concepts of Process management, Storage management, I/O and File Management.

Unit 1

(12 Hrs)

1.1 Operating Systems – An Overview

What is an OS? - Mainframe systems – Desktop Systems – Multiprocessor Systems – Distributed Systems – Clustered Systems – Real Time Systems – Handheld Systems.

1.2 Operating-System Structures

System Components – Operating-System Services – System Calls – System Programs – System Structure

Unit 2

(14 Hrs)

2.1 Processes

Process Concept – Process Scheduling – Operations on Processes – Cooperating Process Interprocess Communication

2.2 Threads

Threads – Overview – Multithreading models – Threading issues

2.3 CPU Scheduling

CPU Scheduling – Basic Concepts – Scheduling Criteria – Scheduling Algorithms.

Unit 3

(13 Hrs)

3.1 Process Synchronization

The Critical-Section Problem – Synchronization Hardware – Semaphores – Classic problems of Synchronization – Critical regions – Monitors.

3.2 Deadlocks

Deadlocks- System Model – Deadlock Characterization – Methods for handling Deadlocks - Deadlock Prevention – Deadlock avoidance – Deadlock detection – Recovery from Deadlock.

Unit 4

(13 Hrs)

4.1 Memory Management

Memory Management- Background – Swapping – Contiguous Memory allocation – Paging – Segmentation

4.2 Virtual Memory

Virtual Memory – Background – Demand Paging – Page Replacement – Thrashing.

Unit 5

(13 Hrs)

5.1 File Management: File System – File Concepts – Access Methods – Directory Structures

5.2 File System Implementation – File System Structures – Allocation Methods – Free Space Management.

5.3 I/O System: Overview - I/O Hardware - Kernel I/O Subsystem - Transforming I/O Requests to Hardware Operations - Performance.

BOOKS FOR STUDY

Abraham Silberschatz, Peter B. Galvin and Greg Gagne, Operating System Concepts. 6th ed. Addison-Wesley, 2003.

BOOKS FOR REFERENCE

Andrew S. Tanenbaum. Modern Operating System. 3rd ed. Prentice Hall, 2008.

Stuart E. Madnick & John J. Donovan. Operating Systems. McGraw Hill International Edition, 1974.

PATTERN OF EVALUATION (End Semester Examination – 3 Hrs.)

Theory - 100 marks

Section A

20 x 1 = 20 : Answer all the Questions.
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Section B

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(One question from each unit)

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(One question from each unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

BACHELOR OF COMPUTER APPLICATIONS

SYLLABUS

(Effective from the academic year 2011 -2012)

J2EE - PRACTICAL

CODE: 11CS/MC/PJ52

CREDITS :2

L T P : 0 0 4

TOTAL HOURS:52

1. Exercises on Applet and Swing

- Creating applet using JApplet class
- Embedding applets in HTML file
- Creating window based applications using Swing
- Creating applications using Color and Graphics class
- Menu based Applications
- Applications with Tabbed pane
- Applications with Tree and File chooser
- Positioning the controls using the Layout Manager

2. Exercises on Event Handling and JDBC

- Event Driven Applications
- Connecting to Oracle Database through Swing based applications
- Applications that involve DML operations
- Processing records using ResultSet
- Applications that retrieve the metadata of tables using ResultSetMetaData

3. Exercises on Servlet

- Calling Servlets from HTML Pages
- Understanding when to use POST and GET methods
- Handling inputs from HTML Page in Servlet
- Connecting to Database from Servlets
- Session Management using HttpSessionInterface and Cookies
- Communication between Servlets using Request DispatcherInterface

4. Exercises on Java Server Pages

- Creating JSP applications with Expressions, Scriptlets and Directives
- Applications using JSP tags
- Creating and using Custom tags
- Database access through JSP

5. Exercises on EJB

- Creating and implementing Session Bean (Stateful and Stateless), Entity Bean.
- Creating and using Message-Driven Beans

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

BACHELOR OF COMPUTER APPLICATIONS

SYLLABUS

(Effective from the academic year 2011 – 2012)

VISUAL PROGRAMMING - PRACTICAL

CODE: 11CS/MC/PV52

CREDITS: 2

L T P: 0 0 4

TOTAL HOURS: 52

1. Exercises using various looping structures and control structures to generate a series of odd numbers, multiples of a given number, etc.
2. Exercises using string functions.
3. Exercise using arrays like sorting, sum of a series etc.,
4. A simple Exercise using Inheritance
5. Exercise using various controls.
6. Exercise using TreeView and ListView control.
7. Exercise using Menus
8. Exercise using Timer control
9. Creating a static website using various controls like adrotator, image control etc.,
10. Exercises for creating Online Web Applications.
11. Exercises for data base connectivity with SQL Server implementing insertion, deletion, searching and editing. Inputs should be validated using Validation Server Controls.
12. Exercises using data bound controls.
13. Exercise using Crystal reports.

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

BACHELOR OF COMPUTER APPLICATIONS

SYLLABUS

(Effective from the academic year 2011 – 2012)

SOFTWARE TESTING

CODE: 11CS/MC/ST54

CREDITS: 4

L T P: 4 1 0

TOTAL TEACHING HOURS: 65

OBJECTIVES

- To expose students to various types of testing strategies relevant to the industry.
- To make the students aware of the software testing goals and metrics.

Unit 1

(11 Hrs)

1.1 Introduction to Software Testing:

What is software testing? - Why software testing? – Testing fundamentals: Basic definitions, testing principles.

1.2 Software Testing Process:

Psychology of testing – verification and validation – Cost of quality – Characteristics of test engineers. Levels of testing

Unit 2

(15 Hrs)

2.1 The test organization: Skills needed by a test specialist, Building a testing group, the structures of the testing group, integrating testing activities in the software life cycle.

2.2 Testing approaches: Top down vs. bottom up approach, Functional testing vs. Structural testing – Mutation testing, Regression testing

2.3 Types of testing: Black box testing , White box testing , Gorilla testing, Beta testing, Field trial, Performance testing, Stress testing, Acceptance testing.

Unit 3

(15 Hrs)

3.1 Defects, Hypotheses and tests: Origin of defects, Defect classes, the defect repository, and test design.

3.2 Test goals, policies, plans and documentation: Introduction, Testing and debugging goals and policies, Test planning, Test plan components, Test plan attachments.

3.3 Defect analysis and prevention: History, Necessary support for an effect prevention program, Techniques for defect analysis - Defect prevention.

Unit 4

(15 Hrs)

4.1 Controlling and monitoring the testing process: Measurements and milestones for controlling and monitoring.

4.2 Review: types of review, components of review, reporting review and review metrics.

4.3 Testing maturity model: The need for a TMM, The TMM structure, The TMM assessment model.

Unit 5

(9 Hrs)

5.1 Software metrics and reports:

Test status metrics – Unique Metrics – Productivity – Review efficiency – Defect removal efficiency – Complexity Measurements – Size Measurement – Defect Metrics Test Reports – Reporting tools – Test report standards – Statistical Analysis

5.2 Documentation Coverage Analysis: Code coverage, coverage criteria, Basic metrics in code coverage: Statement coverage, Decision coverage, Condition coverage, Multiple Condition Coverage, Condition/Decision Coverage, Modified Condition/Decision Coverage, Path Coverage.

5.3 Tools & Automation:

Introduction to Automation tools – Functional & Regression – Performance – Test Management – Advantages of automation tools – Disadvantages of automation tools – Selecting an automation tool – Framework.

Third Component – Test to be instigated with test cases.

BOOKS FOR STUDY

Burnstein, Illene. Practical Software Testing. New Delhi: Springer International Edition, 2005.
Prasad, K. V. K. K. Software Testing Tools. New Delhi: DreamTech Press, 2008.

BOOK FOR REFERENCE

Perry, William. E. Effective Methods for Software Testing. 2nd ed. New York: John Wiley & Sons, 2005.

PATTERN OF EVALUATION (End Semester Examination – 3 Hrs.)

Theory - 100 marks

Section A

20 x 1 = 20: Answer all the Questions.

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5 x 2 = 10: Answer all the Questions.

(One question from each unit)

Section C

8 x 5 = 40 : To answer eight out of ten questions

(Two questions from each unit)

Section D

3 x 10 = 30: To answer Three out of five questions

(One question from each unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

BACHELOR OF COMPUTER APPLICATIONS

SYLLABUS

(Effective from the academic year 2011 – 2012)

VISUAL PROGRAMMING

CODE: 11CS/MC/VP54

CREDITS: 4

L T P: 4 0 0

TOTAL TEACHING HOURS: 52

OBJECTIVES

- To expose students to concepts of Windows programming.
- To introduce Web Programming to students through .NET Technology and disconnected architecture using VB.NET and ASP.NET.

Unit 1

(10 Hrs) 1.1

Introduction to VB.NET –Windows Programming

Structured Programming – Object Oriented programming – Windows Programming –.NET framework - Visual studio.Net – The solution explorer, the command window, the server explorer.

1.2 VB.Net Operators –Unary, Arithmetic, Assignment, Comparison, Concatenation, Logical – Control structures – Loops

1.3 VB.Net - Variables and Type

Variables and Type – Value type, explicit conversions, reference types – Creating basic classes – Inheritance – Arrays – Function – Method Access Characteristics

Unit 2

(10 Hrs)

Collecting User Input in Windows Forms and Events

Buttons, Text Boxes, Check Boxes, Radio Buttons, Combo Boxes, Date and Time Picker, Calendar, List Boxes, Checked List Box, List View, Tree view

Unit 3

(10 Hrs)

Presentation and Informational controls in Windows Forms and Events

Labeling, Link Label, Status Bar, Picture Box, Image List, Progress Bar, Tool Tip, MDI and Menus Creation. Exception Handling

Unit 4

(12 Hrs)

Introduction to ASP.NET – Web Applications

.NET framework – Page Events – Server Controls – Types, working with server control events , Label , Literal, Textbox, Button, Link button, Image button, hyperlink, Dropdownlist, list box, Checkbox, Radio button, Table, State Management, Validation server controls

Unit 5

(10 Hrs)

5.1 Data Management and Binding in .NET

Basic ADO.NET Features: Using the connection object, command object, data reader object, data adapter, dataset, Using Crystal Reports

5.2 Using Bound list Controls

Grid View, Details View, Form View

BOOKS FOR STUDY

Dremtech Press, ASP. NET 2.0. Black Book Edition Wiley Publication, 2007

Jeffrey R. Shapiro. The complete Reference Visual Basic. NET. Tata McGrawHill Edition.

Matthew MacDonald. The complete Reference ASP. NET. Tata McGrawHill Edition.

Steven Holzner, Visual Basic. NET Black Book, 2002

BOOKS FOR REFERENCE

Bill Evjen et al. Professional Visual Studio 2005. WROX publications.

Bill Evjen et al. Professional ASP.NET 2.0. WROX publications.

WEB RESOURCES

http://en.wikipedia.org/wiki/Visual_Basic_.NET

<http://www.homeandlearn.co.uk/net/vbnet.html>

<http://www.w3schools.com/aspnet>

<http://en.wikipedia.org/wiki/ASP.NET>

PATTERN OF EVALUATION (End Semester Examination – 3 Hrs.)

Theory - 100 marks

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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

BACHELOR OF COMPUTER APPLICATIONS

SYLLABUS

(Effective from the academic year 2011 – 2012)

NETWORK CONCEPTS

CODE: 11CS/MC/NC64

CREDITS: 4

L T P: 4 1 0

TOTAL TEACHING HOURS: 65

OBJECTIVES

- To expose students to various concepts of Networking
- To introduce the latest Networking Technologies to students

Unit 1

(13 Hrs)

Introduction

Networks –Categories of networks- Protocols and standards – Topology- Connecting devices - Periodic and analog signals . Transmission modes- serial, parallel. Guided media – Twisted pair, Coaxial, Fibre optic, Coaxial cable. Unguided Media – Radio waves, Micro waves, Infrared. Using Telephone and cable networks for transmission.

Unit 2

(15 Hrs)

2.1 Network models

Layered tasks – The OSI Model – Layers in the OSI Model – TCP/IP Protocol suite and Addressing.

2.2 Multiplexing

Frequency division, Wavelength, Synchronous time and statistical time division multiplexing.

Unit 3

(13 Hrs)

3.1 Data Link Control

Framing – Fixed Size framing, variable size framing. Flow and Error control.

3.2 Multiple Access

Random Access – CSMA, CSMA/CD, CSMA/CA, Controlled Access , Channelization.

Unit 4

(12 Hrs)

4.1 Domain Naming System

DNS-Name space, Distribution of name space, DNS in the Internet, Resolution, DNS messages, Remote logging, E-mail, File Transfer

4.2 Logical Addressing

IPV4 Addresses – Address Space, Notations, Classful and Classless Addressing, Network Address Translation. IPV6 Addresses- Structure, Address Space.

Unit 5

(12 Hrs)

Wired and Wireless LAN's

Wired LAN'S - Ethernet, IEEE standards, standard Ethernet, Fast Ethernet, and Giga bit Ethernet. Wireless LAN'S - IEEE, Blue tooth. - Wired Vs Wireless LAN's – Advantages and Disadvantages of Wireless LAN's - Future of Wireless LAN's

BOOK FOR STUDY

Forouzan Behrouz. Data communications and Networking. New Delhi: Tata McGraw Hill Publishers, 2006.

BOOKS FOR REFERENCE

William Stallings, Data and Computer Communications, 9th Ed. Prentice Hall, 2011.

Tanenbaum Andrew S. Computer Networks, New Delhi : Prentice Hall of India, 2003.

PATTERN OF EVALUATION (End Semester Examination – 3 Hrs.)

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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

BACHELOR OF COMPUTER APPLICATIONS

SYLLABUS

(Effective from the academic year 2011-2012)

INFORMATION AND NETWORK SECURITY

CODE: 11CS/MC/IN64

CREDITS: 4

L T P: 4 1 0

TOTAL TEACHING HOURS: 65

OBJECTIVES

- **To introduce the scope, managerial and technical aspects of Information Security.**
- **To expose students to Security Policies.**

Unit 1 (12 Hrs)

1.1 Information Security

Introduction to Information Security – Introduction, History, Critical characteristic of Information, NSTISSC Security Model, Components of an Information System, Securing components.

1.2 The need for security

Introduction, Business needs, Threats, Attacks- Malicious Code, Hoaxes, Back Doors, Password crack, Brute Force, Dictionary, DoS, Spoofing, Man-in-the-middle, Spam, Mail Bombing, Sniffers, Social Engineering, Buffer Overflow, Timing Attack.

Unit 2 (18 Hrs)

2.1 Risk Management

Introduction, An overview of Risk management, Risk identification, Risk assessment, Risk control Strategies, Selecting a Risk control strategy.

2.2 Security Policies

Introduction, Information Security Policy, Standards and practices, The Information Security Blueprint, Continuity Strategies. Introduction to ISO27000 Series.

Unit 3 (15 Hrs)

3.1 Firewalls and VPNs

Introduction, Physical Design, Firewalls, Protecting Remote Connections

3.2 Intrusion Detection, Access Control and other tools

Introduction, IDSs, Honey pots, Honey Nets and Padded Cell Systems, Scanning and Analysis tools, Access Control Devices.

Unit 4 (10 Hrs)

Cryptography

Introduction, Principles of Cryptography, Cryptography Tools – Public Key infrastructure, Digital Signatures, Digital Certificates, Hybrid Cryptography Systems, Steganography, Protocols for Secure Communications.

Unit 5

(10 Hrs)

5.1 MAC, HASH and Digital Signatures

Message Authentication and HASH function –Secure hash algorithm-Whirlpool-HMAC-CMAC- Authentication protocols.

5.2 Information Security Maintenance:

Introduction - Security Management Models - The maintenance Model.

BOOK FOR STUDY

Whitman Michael E. Principles of Information Security. Thomson Course Technology, 2007.

BOOKS FOR REFERENCE:

Ankit Fadia, Network Security, 2/e. MacMillan, 2006.

Gary McGraw. Software Security: Building Security In. Addition-Wesley Software Security Series, 2006.

Neil Daswani, Christoph kern and Anita Kesavan. Foundation of Security, What every programmer needs to know. A Press, 2007.

Thomas R Peltier. Information Security Policies and Procedures, A Practitioner's Reference. 2nd ed., CRC Press, 2004.

Tom Gallagher; Bryan Jeffries, Lawrence Landauer. Hunting Security Bugs. Microsoft Press, 2006.

PATTERN OF EVALUATION (End Semester Examination – 3 Hrs.)

Theory - 100 marks

Section A

20 x 1 = 20: Answer all the Questions.

(Ten Multiple choice questions and Ten Fill-up)

Section B

5 x 2 = 10: Answer all the Questions.

(One question from each unit)

Section C

8 x 5 = 40: To answer eight out of ten questions

(Two questions from each unit)

Section D

3 x 10 = 30: To answer Three out of five questions

(One question from each unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

BACHELOR OF COMPUTER APPLICATIONS

SYLLABUS

(Effective from the academic year 2011 – 2012)

OBJECT ORIENTED ANALYSIS AND DESIGN

CODE: 11CS/MC/0064

CREDITS: 4

P: 4 1 0

TOTAL TEACHING HOURS: 65

OBJECTIVES

- To introduce students the concepts of objects, classes and relationships.
- To equip the students with skills and knowledge on object oriented analysis and design.

Unit 1

(12 Hrs)

Introduction to Object Oriented Systems Development

Introduction, Two orthogonal views of the software, Object-oriented systems development methodology, what is object orientation? overview of the unified approach. Object Basics - introduction, an object-oriented Philosophy, Objects, Objects are grouped in classes, Attributes: Object state and properties, Object behavior and methods, object respond to messages, encapsulation and information hiding, class hierarchy, polymorphism, object relationships and associations, aggregations and object containment.

Unit 2

(16 Hrs)

2.1 Object Oriented Systems Development Life Cycle

Introduction, Software Development Process, Object-Oriented Systems Development: A Use-case driven approach.

2.2 Unified Modeling Language

Introduction, Static and Dynamic Models, Why modeling? Introduction to UML, UML diagrams, UML class diagram, Use case diagram, UML dynamic modeling, Model Management: Packages and model organization, UML extensibility, UML meta model.

Unit 3

(17 Hrs)

3.1 Object Oriented Analysis: Use Case Driven

Introduction, why analysis is a difficult activity? Business object analysis, Use-case driven object oriented analysis - The unified approach, Business process modeling, Use-case model, and developing effective communication.

3.2 Identifying object relationships, attributes and methods

Introduction, Associations, Super-sub class relationships, A part of Relationships – aggregation, Class responsibility - identifying attributes and methods, Methods and Messages.

Unit 4 (10 Hrs)

Object Oriented Design

Introduction, Object Oriented design process, Axioms, Corollaries, Design patterns.

Unit 5 (10 Hrs)

Designing Classes

Introduction, Object Oriented design philosophy, UML object constraint language, Designing classes - the process, Class visibility, Designing classes, Refining attributes, Designing methods and protocols, Packages and managing classes.

BOOK FOR STUDY

Ali Bahrami. Object oriented systems development using the Unified Modeling Language. McGRAW-Hill International Editions, 1999.

BOOKS FOR REFERENCE

Craig Larman. Applying UML and Patterns: An Introduction to Object-oriented Analysis and Design and the Unified Process. Second ed. Prentice Hall PTR, 2002.

Grady Booch. Object-Oriented Analysis & Design with applications. 2nd ed. Pearson Education, 2006.

Martin Fowler, Kendall Scott. UML Distilled. 2nd ed. Pearson Education, 2003.

PATTERN OF EVALUATION (End Semester Examination – 3 Hrs)

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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

BACHELOR OF COMPUTER APPLICATIONS

SYLLABUS

(Effective from the academic year 2011 - 2012)

PROJECT

CODE: 11CS/MC/PR64

CREDITS: 4
L T P: 0 0 8

OBJECTIVE

- To help students implement the concepts learnt throughout the course and to develop a real time application.

GUIDELINES TO UNDERTAKE THE FINAL SEMESTER PROJECT

One of the important stipulations regarding project for B.C.A is that it should be in the area of Computer Science/ Computer Applications. The project work may be carried out by identifying research/ system oriented application problem/ web resources/ tools in any one of the business/ services computerized organizations/ information technology organizations.

The Document to be submitted must include the following. These are general guidelines which may differ slightly as per the demand of the study topic.

Introduction

- ◆ Existing System
Clearly state the existing system in detail with its drawbacks.
- ◆ Proposed System
- ◆ Create a set of Design principles to overcome the drawbacks.

System Analysis

- ◆ Development Environment
- ◆ Requirement Specification
- ◆ Software Specification

System Design

- ◆ Module Descriptions
- ◆ Database Design
- ◆ Screen Design
- ◆ Report Design

Implementation

- ◆ System Description
- ◆ System Implementation

Code Review and Testing

- ◆ Code Review
- ◆ Testing Process
 - Front-end Validation
 - Back-end Validation

Conclusion

- ◆ Summary of findings, conclusions for Future Enhancement
- ◆ Suggestions
 - How to efficiently utilise the system .

Bibliography

- ◆ List the references related to the project
- ◆ References can also include websites

Appendix

- ◆ Questionnaire, any other details.

Project Evaluation

Internal Assessment (50 marks)

There will be two Continuous Assessment evaluations and one III Component in accessing the progress of the Project work.

Based on the criteria listed below internal marks will be awarded.

1. Timely completion of assigned tasks
2. Individual involvement, team work and adoption of industry work culture
3. Quality of project documentation (Precision, stylistics, relevance etc)
4. Achievement of project deliverables
5. Presentation of Completed project work
6. Viva Voce

External assessment (50 marks)

Dissertation /Project document must be submitted at the end of the semester. The student must present the Completed project work.A viva –voce based on the work will also be conducted.

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BACHELOR OF COMPUTER APPLICATIONS

SYLLABUS

(Effective from the academic year 2011-2012)

LINUX PROGRAMMING

(Skill development course)

CODE: 11CS/ME/LP63

CREDITS: 3

L T P: 2 0 2

TOTAL TEACHING HOURS: 52

OBJECTIVES

- To enable students to understand multi-user systems
- To help students in developing LINUX programs using shell script.

Unit 1

(10 Hrs)

Introduction

Features of a multiprogramming OS. . History of the Unix OS. Introduction to Linux Features, Advantages,- Basic Architecture of Unix/Linux system, Kernel, Shell. Different shells – Bourne shell, C shell, Bash shell. General purpose utilities - login, logout, date, who, who am i, banner, cal, calendar, uname, passwd, echo, tty, tput, bc, script, man.. Linux file system - Linux standard directories. Files - Parent child relationship- File names – home, absolute and relative path names. Directory commands - cd, mkdir, rmdir, pwd. File command - Creating and viewing files using cat. Wildcards for file name matching *,?,[], ., cp, rm, mv, ln. File Access Permissions – chmod, chown, chgrp.

Unit 2

(12 Hrs)

Concept of Input, Output, Error redirection:

Understanding filters and pipes. Common filters – grep,regular expression, cut, paste, head, tail, find, uniq, comm, cmp, sort, diff, tr. Usage of tee.

Unit 3

(12 Hrs)

3.1 Advanced Filters – sed

Sed – instruction – line addressing – inserting and changing text – context addressing – writing selected lines to a file - -f option – substitution – regular expression

3.2 Shell

The sh command. Pattern matching, escaping with backslash, using quotes, command substitution, shell variables, Environment variables, .profile,Introduction to vi editor.

Unit 4

(10 Hrs)

Shell Programming

Shell scripts – read – command line arguments – exit status – logical operators – exit command – if conditional – case – expr – sleep – wait – while – until – for – positional parameters and \$variables – here document – set – trap.

Unit 5

(8 Hrs)

5.1 Processes

Sh processes, parents and children, ps, system processes, mechanism of process creation, internal and external commands, running jobs in the background, kill, nice, at, batch, cron.

5.2 Linux File system

Ext2, ext3, Boot block, super block, Inode table, data blocks, How Linux access files
System startup and shut-down process

5.3 Linux system administration

Root: The system administrator's Login, Disk Management, File system mounting

BOOK FOR STUDY

Christopher Negus. Red Hat Linux 9 Bible. IDG Books India Ltd, 2003.

Kernighan and Pike. The Unix Programming Environment. Prentice Hall 2000.

Sumitabha Das. UNIX – Concepts & Applications. 3rd Ed. TataMcGraw Hill Publications, 2000.

BOOKS FOR REFERENCE:

Graham Glass & King Ables. Linux for programmers and users. 3rd Ed. Pearson Education India, 2003.

WEB RESOURCES

<http://www.computerhope.com/unix/uls.htm>

<http://www.webune.com/forums/linux-commands>

http://linux.about.com/od/commands/l/blcmdl1_ls.htm

<http://tldp.org/LDP/abs/html/>

http://bash.cyberciti.biz/guide/Main_Page

PATTERN OF EVALUATION (End Semester Examination – 3 Hrs.)

Theory - 50 marks Duration -1½hrs

Practical - 50 marks Duration -1½hrs

Theory Exam Pattern:

Section A

10 x 1 = 10 : Answer all the Questions.
(Five Multiple choice questions and five Fill-up)

Section B

5 x 2 = 10 : Answer all the Questions.
(One question from each unit)

Section C

6 x 5 = 30 : To answer six out of eight questions
(Eight questions to be set, Selecting atleast one question from each unit)

PRACTICAL LIST

1. Exercises using Directory commands

Creation of Home directory with login Home
Displaying the current working directory, Creating a directory under the user's HOME directory, changing to the directory, Creating a file under the directory, etc.,

2. Exercises using commands for listing of Files

Listing the files in the current directory. Observing the ASCII collating sequence and colors of the files and/or directories.

3. Exercise using commands for handling Files

Displaying the contents, copy, and move, rename, remove.

4. Exercises on Filter Command – Cut, Head, Tail

5. Exercises on Sort commands to sort the files

6. Exercises on grep command to search for the pattern

7. Exercises on advanced filter – sed

8. Program using SHELL SCRIPTS

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
BACHELOR OF COMPUTER APPLICATIONS

SYLLABUS

(Effective from the academic year 2011 – 2012)

SOFTWARE TESTING TOOL
(Skill development course)

CODE: 11CS/ME/TT63

CREDITS: 3

L T P: 2 0 2

TOTAL TEACHING HOURS : 52

OBJECTIVES

- To provide comprehensive understanding of software testing.
- To implement software testing tool efficiently.

Unit 1

(8 Hrs)

1.1 Automated Testing

Testing Types – The Benefits of Automated Testing – Manual or Automated Testing – Manual Testing Process – Automated Testing Process – Mercury Tools of Testing Tools

1.2 Important Concepts in Test Automation

Types of Software Testing – Desktop Application – Web Applications – record/playback - Object Recognition – Representing Operations – Add-in Architecture – Parameterizing Tests

1.3 Introducing the Tool.

Launching – environment – Add-in Manager – Application – Debug View – Function View- Exiting.

Unit 2

(10 Hrs)

2.1 Using the Tool.

Create Tests - Debugging the test - Running the tests - Analyze the test results

2.2 Mapping the GUI

Mapping the GUI - GUI Map File Modes - GUI Map File tools - GUI Map Configuration - GUI Spy - GUI Map Editor - GUI Map File merge tools - Editing the GUI Map File - Recording a test.

Unit 3

(12 Hrs)

3.1 Checkpoints

GUI Checkpoints – Bitmap checkpoints – Database Checkpoint – Get Text Checkpoint – Substr() – t1_step() Function

3.2 Data driven and Batch Testing

Dynamic Test Data Submission – Through Flat Files – Front-end Grids – Through Excel Sheets – Batch Testing – Parameter Passing – Data Driven Batch

Unit 4

(12 Hrs)

4.1 Improve Test Automation

Silent Mode – Function Generator – Startup Script – User Defined Functions – Compiled Module – Synchronization Point – Exception Handling – Selective Recording

4.2 GUI Mapping

Auto Learning – Pre Learning – Changes in GUI Map Entries – Virtual Object Wizard – GUI Map Configuration – User Interface Testing – Regression Testing

4.3 Web Option in Testing Tool

Off-line mode – URL's coverage – Content Coverage – Web Functions in TSL

Unit 5

(10 Hrs)

Mini-Project

Developing automated test-cases for domains such as:

1. web-site development
2. inventory management
3. shopping cart
4. finance management
5. health-care

The mini project work which should cover the following:

- Test Plan Documentation
- Test Scenario Writing
- Test Case Writing
- Execution of Test Cases
- Bug Reporting
- Analysis for Automation
- Automation Framework Preparation
- Scripting the Test Cases (Using QTP)
- Execution of Test Scripts
- Report Generation

BOOK FOR STUDY

Pusuluri, Nageshwar Rao. Software testing tools. Dreamtech Press, 2006.

BOOKS FOR REFERENCE

Prasad, Dr. K.V.K.K. Software Testing Tools. Dreamtech Press, 2004.

Shittu Hakeem .Winrunner in Simple Steps. Genixpress, 2007.

PATTERN OF EVALUATION (End Semester Examination – 3 Hrs.)

Theory - 50 marks Duration -1½hrs

Practical - 50 marks Duration -1½hrs

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