

SEMESTER VI

S.No	Course	Total Marks	Mid Sem Exam	Sem End Exam	Teaching Hours	Credits
1	Foundation Course Seminar on Project	50	0	50	2	2
2	DOT NET Technologies	100	25	75	4	3
3	DOT NET Technologies Lab	50	0	50	2	2
4	Software Testing Concepts and Tools	100	25	75	4	3
5	Software Testing Lab	50	0	50	2	2
6	Multimedia Systems	100	25	75	4	3
7	Multimedia Systems Lab	50	0	50	2	2
8	ELECTIVE 1. Operating Systems 2. UNIX and Shell Programming	100	25	75	6	5
9	Major Project	200	50	150	12	10
Total		800			38	32

III YEAR VI SEMESTER

DOT NET TECHNOLOGIES

UNIT I

Introducing C#: What Is the .NET Framework - What Is C#? - Visual Studio 2008 -
Writing a C# Program: The Development Environments - Console Applications -
Windows Forms Applications

Variables and Expressions: Basic C# Syntax - Basic C# Console Application Structure
Variables - Expressions

Flow Control: Boolean Logic - The goto Statement- Branching – Looping

UNIT II

More about Variables: Type Conversion - Complex Variable Types - String Manipulation

Functions: Defining and Using Functions - Variable Scope- The Main() Function -Struct
Functions - Overloading Functions -Delegates

Debugging and Error Handling: Debugging in VS and VCE - Error Handling

UNIT III

Introduction to Object-Oriented Programming: What Is Object-Oriented Programming? -
OOP Techniques - OOP in Windows Applications

Defining Classes: Class Definitions in C# - System.Object -Constructors and Destructors -
OOP Tools in VS and VCE -Class Library Projects -Interfaces Versus Abstract Classes -
Struct Types

Defining Class Members: Member Definitions -Additional Class Member Topics -Interface
Implementation- Partial Class Definitions - Partial Method Definitions - Example Application

UNIT IV

Additional OOP Techniques: The:: Operator and the Global Namespace Qualifier
Custom Exceptions - Events -Expanding and Using CardLib

Basic Windows Programming:Controls - The Button Control - The Label and LinkLabel
Controls - The TextBox Control- The RadioButton and CheckBox Controls - The
RichTextBox Control - The ListBox and CheckedListBox Controls - The ListView Control -
The TabControl Control

Advanced Windows Forms Features: Menus and Toolbars - Toolbars - SDI and MDI
Applications - Creating Controls

UNIT V

Using Common Dialogs: Common Dialogs - How to Use Dialogs - File Dialogs -
Printing - Print Preview - FontDialog and ColorDialog

Basic Web Programming: Overview - ASP.NET Runtime - Creating a Simple Page -Server Controls -Event Handlers - Input Validation - State Management

Advanced Web Programming: Master Pages - Site Navigation - User Controls
Profiles - Web Parts -JavaScript

TEXT BOOK:

1. Beginning Microsoft Visual C# 2008 by **Karli Watson, Christian Nagel, Jacob Hammer Pedersen, Jon D. Reid, Morgan Skinner, Eric White** Wrox Publication

REFERENCE BOOKS

1. Professional Visual C#, Wrox Publication
2. Inside C#, by Tom Archer ISBN: 0735612889 Microsoft Press A© 2001, 403 pages
3. Beginning ASP. NET 3.5, Wrox Publication

DOT NET TECHNOLOGIES LAB

1. Write a C#.NET console application for the function overloading and function overriding?
2. Write a C#.NET console application program to process student details
3. Write a C#.NET console application program for sorting of an elements
4. Write a C# to implement Interfaces
5. Write a C# to create properties for private members access and data validations
6. Write a C#.NET windows form interface to design basic calculator
7. Write a C#.NET windows form interface to add/move item(s) from one ListBox to another ListBox
8. Design a C#.NET windows form to demonstrate menus by drawing different graphical objects (Square, Line, Circle, Rectangle) with different with, color
9. Write a C#.NET windows application program for Database connectivity using ADO.NET
10. Write a C#.NET web application program for Database connectivity using ADO.NET

SOFTWARE TESTING CONCEPTS AND TOOLS

UNIT I

Software Development Process Models - Requirements Management - Software Design - Coding and Unit Testing - Integration Testing - System testing - Installation and Acceptance - Customer Support / Maintenance

UNIT II

System testing Process - System Test Commencement - System Test Planning - Test Design - Test Execution - Test Reporting and Defect Tracking

UNIT III

Introduction to WinRunner - Checkpoints in WinRunner - Driven and Batch Testing - Improve Test Automation in WinRunner - GUI Mapping - Web test Option in WinRunner

UNIT IV

QuickTestPro - Introduction - Edit Test Scripts- Improving Test Automation in QTP -Data Driven and Batch Testing - Web Test Options in QTP

UNIT V

Introduction to Performance Testing - VuserScript Creation Using LoadRunner - VuserScript Execution and Results Analysis - Site Administrator - Understanding Test Director

TEXT BOOK

1. Software Testing Concepts And Tools By Nageshwar Rao Pusuluri, Dreamtech Press

TESTING TOOLS LAB

1. Introduction to win runner testing tool
2. Recording test in context sensitive & analog mode
3. Synchronizing test.
4. Checking gui objects
5. Checking bitmap objects.
6. Programming test with tsl
7. Creating data driven test
8. Maintaining test script
9. Batch test
10. Project (creating test report)

MULTIMEDIA SYSTEMS

UNIT I

What is Multimedia?: Definition – Where to use Multimedia – Delivering Multimedia
Text- The Power of Meaning – About Fonts and Faces – Using Text in Multimedia-
Computers and Text – Font Editing and Design Tools – Hyper Media and Hyper Text

UNIT II

Images: Before you Start to Create – Making Still Images – Color – Image File Formats
Sound – The Power of Sound – Digital Audio – MIDI Audio – MIDI vs Digital Audio –
Multimedia System Sounds – Audio File Formats – Vaughans Law of Multimedia Minimums
– Adding Sound to your Multimedia Project

UNIT III

Video: Using Video - How Video Works and is Displayed - Digital Video Containers -
Obtaining Video Clips - Shooting and Editing Video
Making Multimedia: The Stages of a Multimedia Project - What You Need: The
Intangibles- What You Need: Hardware - What You Need: Software - What You Need:
Authoring Systems

UNIT IV

Multimedia Skills: The Team – The Sum of Parts
Planning and Costing: The Process of Making Multimedia – Scheduling -Estimating - RFPs
and Bid Proposals
Designing and Producing: Designing - Producing

UNIT V

Content and Talent: Acquiring Content - Ownership of Content Created for a Project -
Acquiring Talent
The Internet and Multimedia: Internet History - Internetworking – Multimedia on the Web
Designing for the World Wide Web: Developing for the Web - Text for the Web -Images
for the Web - Sound for the Web - Animation for the Web - Video for the Web

TEXT BOOK

1. Multimedia: Making It Work, Tay Vaughan, 8th Edition, Tara Mc-Graw Hill.

REFERENCE BOOKS

1. Multimedia Systems, John F.Koegel Buford, Pearson edition, 2003
2. Ranjan Parekh, Principles of Multimedia, TMH, 2006.Engineering Evaluation Software
3. Multimedia: Computing, Communication and applications, Ralf Steinmetz and Klara Nahrstedt, Pearson Edition, 2001

MULTIMEDIA SYSTEMS LAB

1. Text formatting
2. Create different still images
3. Design Student Identity Card.
4. Prepare an Invitation for College Annual Day Function.
5. Audio-Video mixing
6. Image Editing using Adobe Photoshop.
7. Animated e-card using macromedia Flash.
8. Convert a video into different formats.

ELECTIVE PAPER - UNIX AND SHELL PROGRAMMING

UNIT- I

Overview of Operating Systems: Introduction to Operating Systems Concepts, Operating System terminology, System Calls, Types of Operating System.

Process Management: Operating System Components, Process Management, Scheduling, Scheduling Algorithms, Inter Process Communication, Threads.

UNIT II

Memory Management: Introduction to Memory Management, Contiguous Memory Allocation, Swapping, File Concept, File Structure, Directories, Disk Allocation and Access Methods, File Protection, Device Independence.

Unix Basics: History of UNIX, Design Principles of UNIX, UNIX- A Multiuser Operating System, UNIX Architecture, Basics of Unix Commands, Shell Commands Syntax, Internal and External Commands, Correcting Typing Mistakes on Command Line, General Unix Commands.

UNIT III

Unix File System: Unix File System- Introduction, File security Mechanism, Standard UNIX Directories, UNIX Commands for File System.

The Vi- Editor: Vi- an Introduction Basic Vi-Commands, The File .exrc, Vi-Options.

UNIT IV

Shell as an Interpreter: Main Features of shell, Bourn Shell, Shell Metacharacters, Shell Variables, Global and Local Variables, Comparison of Bourne and 'C' Shell.

Filters: Filters- An Introduction, Paginating Files-pr, Displaying the Beginning of a File-head, Displaying the End of a File- tail, Cutting a File Vertically-cut, Pasting files- paste, Searching for a Pattern- grep, Multiple String Searching- fgrep, Translating Characters- tr, Advanced Filters- sed and awk.

UNITV

Process Management in Unix: Process- Definition, Identification, Operations, Login Process, Process Commands, Job Control in Korn and bash Shells, Process states and Transitions, Dual Mode of Operations, Process Data Structures, Virtual Addresses versus Physical Addresses, Context of a Process, Process Scheduling.

Shell Programming: Shell Scripts, Commands, Control structures, test Commands, expr Command, Interrupting Programs- trap.

TEXT BOOK

1. Basics of OS UNIX and Shell Programming By ISRD Tata McGraw-Hill Education,

REFERENCE BOOK

1. UNIX and SHELL Programming By B.M. Harwani, from Oxford University Press (India)

ELECTIVE PAPER - OPERATING SYSTEMS

UNIT I

Introduction: Computer System Organization – Computer System Architecture – Operating System Structure – Operating System Operations

System Structure: Operating System Services – System Calls – Types of Systems Calls – System Programs.

UNIT II

Process Concept: Process Scheduling – Operations on Processes – Interprocess Communication – Communications in Client Server Systems

Process Scheduling: Concepts – Scheduling Criteria – Scheduling Algorithms – Multiple Processor Scheduling – Thread Scheduling

UNIT III

Synchronization: The critical section problem – Peterson’s Solution – Synchronization Hardware – Semaphores - Classical Problems of Synchronization – Monitors – Atomic Transactions.

Deadlocks: Characterization - Methods for handling deadlocks - Deadlock prevention – Deadlock Avoidance – Deadlock Detection - Recovery from deadlock –

UNIT IV

Memory Management: Swapping - Contiguous Memory Allocation, Paging, Segmentation, Segmentation with paging.

UNIT V

Virtual Memory Management: Demand Paging – Copy on Write – Page Replacement – Allocation of Frames – Thrashing – Memory Mapped Files – Allocations of Kernel Memory

TEST BOOK

1. Operating System Concepts by - Silberschatz, Galvin, Gagne, John-Wiley (2002)

REFERENCE BOOKS

1. Andrew S. Tanenbaum, “Modern Operating Systems”, PHI, Fourth edition.

PROJECT WORK

The project will be one semester duration. The student will be advised to approach different organizations involved in science communication activities as per interest and specialization of students, mostly located in the place of the study. They will have to carry out a project work related to the area of interest and submit a project report at the end of the semester. The students shall defend their dissertation in front of experts during viva-voce examinations.