

VEER NARMAD SOUTH GUJARAT UNIVERSITY

B.C.A.

Semester – V

Effective From 2008-09

Teaching and Evaluation Scheme

Semester V th							
Paper No	Subject	Teaching Time	External Exam		Internal Exam.		Total Marks
		Lect./Prac.	Duration	Marks	Duration	Marks	
501	Java Programming Language	4.5 Hrs./Week	3 Hrs	70	2 Hrs	30	100
502	Unix & Shell Programming	4.5 Hrs./Week	3 Hrs	70	2 Hrs	30	100
503	E-Commerce	4.5 Hrs./Week	3 Hrs	70	2 Hrs	30	100
504	Operating Systems II	4.5 Hrs./Week	3 Hrs	70	2 Hrs	30	100
505	ASP.NET	4.5 Hrs./Week	3 Hrs	70	2 Hrs	30	100
506	Practical (Based on Paper 501, 502,505)	9Hrs./Week	5 Hrs	150	3 Hrs	50	200
	TOTAL	31.5 Hrs./Week		500		200	700

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Paper – 501

Subject : Java Programming Language

1. Introduction to Java
 - 1.1 Properties of Java
 - 1.2 Comparison of Java with C++

2. Java Developer's Kit (JDK) and its uses
 - 2.1 Java Compiler
 - 2.2 Java Interpreter
 - 2.3 Java Debugger
 - 2.4 Applet Viewer

3. Basic Concepts
 - 3.1 Identifier
 - 3.2 Literals
 - 3.3 Operators
 - 3.4 Variables
 - 3.5 Keywords
 - 3.6 Data types

4. Control Structures
 - 4.1 Branching
 - 4.1.1 If – else
 - 4.1.2 Break
 - 4.1.3 Switch
 - 4.1.4 return
 - 4.2 Looping
 - 4.2.1 While
 - 4.2.2 Do-while
 - 4.2.3 For
 - 4.2.4 Continue

5. Classes and objects
 - 5.1 Simple class
 - 5.2 Fields
 - 5.3 Access controls

- 5.4 Object creation
- 5.5 Construction and initialization
- 5.6 Methods
- 5.7 This
- 5.8 Overloading methods
- 5.9 The main method

- 6. Interfaces
 - 6.1 Introduction to Interfaces
 - 6.2 Interface Declaration
 - 6.3 Inheriting and Hiding Constants
 - 6.4 Inheriting, Overloading and Overriding Methods
 - 6.5 Interfaces Implementations

- 7. Exceptions
 - 7.1 Introduction to Exceptions
 - 7.2 Creating Exception Types
 - 7.3 Throw
 - 7.4 Throws
 - 7.5 Try, catch and finally

- 8. Threads
 - 8.1 Introduction to Threads
 - 8.2 Thread Model
 - 8.3 Priority of Threads
 - 8.4 Inter Thread Communication
 - 8.5 Synchronization

- 9. Strings
 - 9.1 Basic String Operations
 - 9.2 String Comparison
 - 9.3 String Buffer Class

- 10. Packages
 - 10.1 Package Naming
 - 10.2 Type Imports
 - 10.3 Package access
 - 10.4 Package Contents
 - 10.5 Package Object and Specification

- 11. The Applet Classs
 - 11.1 Applet Basics
 - 11.2 Applet Architecture
 - 11.3 Applet Skeleton

- 11.4 Applet Display Methods
- 11.5 HTML APPLET Tag (<APPLET>)
- 11.6 Passing Parameters to Applets

Reference Books :

1. Ken Arnold James Gosling, David Holmes – Java Programming Language Third Edition – Addition Wesley (Pearson Education)
2. Patrick Naughton – Java _ The Complete Reference – Tata McGraw Hill
3. Samuel A. Rebelsky – Experiments in Java : An Introductory Lab Manuals – Addition Wesley (Pearson Education)
4. Steven Haines – Java 2 From Scratch PHI.

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Paper – 502

Subject : UNIX & Shell Programming

Prerequisite - Fundamental Concepts of Operating Systems.

1. Introduction

- 1.1 Features
- 1.2 System structure
- 1.3 Shell & its features
- 1.4 Kernal
 - 1.4.1 Architecture of the UNIX OS
 - 1.4.2 Kernal Data Structure

2. Overview

- 2.1 Logging in & out
- 2.2 I node and file structure
- 2.3 File system structure and features
- 2.4 Booting sequence & init process
- 2.5 File access permissions

3. Shell Programming

- 3.1 Environmental & user defined variables
- 3.2 Argument processing
- 3.3 Shell's interpretation at prompt
- 3.4 Arithmetic expression evaluation
- 3.5 Control structure
- 3.6 Redirection
- 3.7 Background process & priorities of process
- 3.8 Conditional execution
- 3.9 Parameter & quote substitution

4. Advanced shell programming

- 4.1 Filtering utilities.
- 4.2 Awk.
- 4.3 Batch process.
- 4.4 Splitting, comparing, sorting. Merging & ordering files.

4.5 Communications with other users.

- 5. Editors and utility
 - 5.1 Link editor (ed)
 - 5.2 Screen editor tutorial (vi)
 - 5.3 Fsck utility

Reference Book :-

1. M.J.Buch : The design of the UNIX OS – Prentice Hall.
2. A.S.Godbole : Operating Systems – Tata McGraw Hill.
3. Vijay Mukhi : Working with UNIX PBP Publications.
4. Vijay Mukhi : UNIX Shells – BPB Publications.
5. Das : UNIX System Concepts & Applications – Tata McGraw Hill.

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Paper – 503

SUBJECT : E –Commerce

1. Introduction to E – Commerce
 - 1.2 What is E - Commerce
 - 1.3 E – Commerce Framework
 - 1.4 Anatomy of E – Commerce Applications
 - 1.4.1 Multimedia contents of E – Commerce Applications
 - 1.4.2 Client / Server Architecture in E – commerce
 - 1.4.3 Internal Processes of Multimedia Servers
 - 1.4.4 Video Servers and E- Commerce
 - 1.5 Information Delivery/ Transport
 - 1.5.1 Transport routes
 - 1.5.2 Access Devices
 - 1.6 E- Commerce Consumer Applications.
 - 1.7 E – Commerce Organization Application.

2. Network for E – Commerce
 - Components of Information way
 - Network access Equipment
 - Global Information Distribution Network
 - Long Distance Networks
 - Satellite Networks

3. E – Commerce and World wide Web
 - Architectural Framework for E-Commerce
 - E-commerce application services
 - Consumer to Business Transaction
 - Business to Business Transaction
 - WWW as architecture
 - Block diagram of E-commerce.
 - Hypertext publishing.
 - Technology behind the web.

- Security on the web
- Categories of internet data and transactions.

WWW based security schemes.
Secure Socket layer.
4. Electronic payment system
Types of electronic payment systems
Digital token based electronic payment system
E Cash
Electronic checks
Smart cards and electronic payment system
Credit card based electronic payment system

Reference Books :-

1. Kalakota and Whinstn – Frontiers of of Electronic Commerce – Addition Wesley
2. Efraim Turban, Jae Lee, David King, H.Michel Chung – Electronic Commerce : A Mangerial Prespective – Addition Wesley
3. Parag Diwan & Sunil Sharma – IT Encyclopedia.com Volume 8 : E-Commerce – Pentagon Press
4. Charles Trepper – E-Commerce Strategies – PHI.

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Paper – 504

Subject : Operating Systems – II

1. Memory Management
 - 1.1 Memory Management Functions
 - 1.2 Contiguous Allocation
 - 1.2.1 Partitioned memory static and dynamic allocation
 - 1.2.2 Segmentation
 - 1.3 Non-contiguous allocation
 - 1.3.1 Paging segmentation
 - 1.3.2 Demand paging and segmentation
 - 1.3.3 Allocation and replacement policies

2. Process Management
 - 2.1 Process management
 - 2.2 Process concept
 - 2.3 Scheduling
 - 2.4 Scheduling Algorithms
 - 2.5 Process co-ordination
 - 2.5.1 Producer / Consumer Problem
 - 2.5.2 Critical Section Problem
 - 2.5.3 Semaphores
 - 2.5.4 Inter process Communication
 - 2.5.5 Deadlocks

3. Device Management
 - 3.1 Device management function
 - 3.2 Device characteristics
 - 3.3 Disk space management
 - 3.4 Allocation and Disk scheduling methods

4. File management
 - 4.1 File management functions.
 - 4.2 File system and Directory structure organization.
 - 4.3 File protection.

Reference Books :-

1. Silberschatz : An OS Concept – Addison Wesley Publication
2. W.Stallings – An Operating Systems – PHI
3. I.M. Flinn. A.M. Mchoes – Understanding Operating Systems – Thomson Learning
4. Donovan M. Operating systems – McGraw Hill Pub.
5. Crowley : Operating Systems : A design Oriented Approach – Tata Mcgraw Hill
6. S. Godbole – Operating Systems TMH.

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Paper – 505

SUBJECT : ASP.NET

1. Introduction to ASP.NET

- 1.1. What is ASP.NET
- 1.2. Compiled code
- 1.3. The Common Language Runtime
- 1.4. Object Oriented Concepts
- 1.5. Error Handling
- 1.6. Event Driven Programming

2. Server Controls.

- 2.1. Post back
- 2.2. Data Binding
- 2.3. Web-Server Control
- 2.4. Html Server Control
- 2.5. Validation Control

3. Database Access.

- 3.1. Error Handling
- 3.2. Database Access Using ADO.NET

4. Advanced ASP.NET

- 4.1. Communication with Web Browser
- 4.2. Response Object
- 4.3. Cookies
- 4.4. Query-String Form Collection

5. Web.Config

5.1. Session Management and Variable Scope

5.2. Page SubClassing

5.3. User Control

5.4. Advance Data Banding

5.4.1. data Gride

5.4.2. Data Binding Events

5.4.3. Data List

5.4.4. Repeaters

6. Web Services.

6.1. Basics of Web Services

6.2. Interacting with web Services

REFERENCES

1. **Professional ASP.NET 1.1** - Bill Evjen, Devin Rader, Farhan Muhammad, Scott Hanselman, Srinivasa Sivakumar – Wrox.
2. **Professional ADO.NET** - Bipin Joshi, Donny Mack, Doug Seven, Fabio Claudio Ferracchiati, Jan D Narkiewicz, John McTanish, Julian Skinner, Kevin Hoffman, Matt Milner, Paul Dickinson, Warren Wiltsie – Wrox.
3. **Special Edition Using ASP.NET** – Richard Leinecker – Pearson Education.
4. **ASP.NET A Beginner's guide**– Dave Mercer – TMH
5. **ASP.NET for Developers** – Amundsen - Tecmedia
6. **Beginning ASP.NET 1.1** – Chris Hart, Chris Ullman, David Sussman, John Kauffman - Wrox

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Paper – 506

SUBJECT : PRACTICAL

Practicals shall be conducted as mentioned in the teaching scheme for paper : 501, 502, 505 Separate journals for paper no 501, 502 and 505 should be prepared.

Journals for all the papers to be prepared (WITH PRINTOUTS) separately