

**VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT**  
**Post Graduate Diploma in Computer Application (Evening)**  
**Semester - II**  
**Effective from: July - 2012**

**Paper No. : E201**

**Paper Title : Open Source Web Based Programming**

**1. Introduction to Internet**

**2. Introduction to Web Technology**

**2.1. HTML**

2.1.1. HTML tags

**2.2. Javascript**

2.2.1. Fundamentals of JavaScript

2.2.2. Syntax of JavaScript

2.2.3. Use of JavaScript in HTML

2.2.4. Validation using JavaScript

**2.3. CSS**

2.3.1. What is CSS?

2.3.2. Advantage & Disadvantage of CSS

2.3.3. Creating CSS

2.3.4. Use of CSS in HTML

2.3.5. Formatting HTML page using CSS

**3. Introduction to PHP**

3.1. Installation of PHP and mySql

3.2. PHP configuration in IIS & Apache Web Server

3.3. Features of PHP

**4. Writing PHP**

4.1. How PHP code is parsed

4.2. Embedding PHP and HTML

4.3. Executing PHP and viewing in Browser

4.4. Datatypes

4.5. Operators

4.6. PHP variables: static and global variables

4.7. Comments in PHP

## **5. Control Structures**

- 5.1. Condition statements
  - 5.1.1. If..Else
  - 5.1.2. Switch
  - 5.1.3. ? operator
- 5.2. Loops
  - 5.2.1. While
  - 5.2.2. Break statement
  - 5.2.3. Continue
  - 5.2.4. Do..While
  - 5.2.5. For
  - 5.2.6. For each
- 5.3. Exit, Die, Return
- 5.4. Arrays in PHP

## **6. Working with Data**

- 6.1. FORM element, INPUT elements
- 6.2. Validating the user input
- 6.3. Passing variables between pages
  - 6.3.1. Passing variables through a GET
  - 6.3.2. Passing variables through a POST
  - 6.3.3. Passing variables through a REQUEST

## **7. PHP functions**

- 7.1. String Functions
- 7.2. Array Functions
- 7.3. Mathematical Functions
- 7.4. File System Functions
- 7.5. Date and Time Functions
- 7.6. Misc. Function

## **8. Handling sessions and cookies**

- 8.1. Concept of Session
- 8.2. Starting session
- 8.3. Modifying session variables
- 8.4. Unregistering and deleting session variable
- 8.5. Concept of Cookies
- 8.6. Handling of Cookies

## **9. Object Oriented Features of PHP**

## **10. Classes and Objects Use Of constructors Serialization**

## **11. File and Directory Handling**

## 12. MySQL Database Server

- 12.1. Configuring the MySQL Server
- 12.2. Starting MySQL Server
- 12.3. MySQL Tables
- 12.4. Displaying MySQL Database
- 12.5. Adding and removing user access
- 12.6. Checking and fixing database

## 13. Error Handling

### Reference Books:

1. Beginning PHP, Apache, MySQL Web Development -Elizabeth Naramore, Jason Gerner , Yann Le Scouarnec, Jeremy Stolz,Michael K. Glass, Gary Mailer - By Wrox Publication
2. Beginning PHP and MySQL: From Novice to Professional, Third Edition - W. Jason Gilmore – Apress, 2008, ISBN : 1590598628
3. Beginning PHP 5.3 - by Matt Doyle - By Wrox Publication , ISBN: 978-0-470-41396-8
4. PHP and MySQL Bible – Tim Converse and Joyce Park with Clark Morgam By Wiley INDIA
5. Beginning Ajax with PHP -Lee Babin - Apress, oct 2006, ISBN 1590596676
6. PHP Object-Oriented Solutions - David Powers , Friends of ED, 2008
7. PHP MySQL Website Programming: Problem - Design - Solution - Chris Lea, Mike Buzzard, Jessey White-Cinis & Dilip Thomas - Apress, 2003, ISBN 1-59059-150-X
8. Beginning PHP 5, Apache, and MySQL Web Development - Elizabeth Naramore, Jason Gerner, Yann Le Scouarnec, Jeremy Stolz, Michael K. Glass-Wrox Press,ISBN 0-1308-8903-2
9. PHP MySQL Website Programming - Chris Lea, Mike Buzzard, Jessey White-Cinis & Dilip Thomas - Wrox Press Inc, ISBN 1-861008-27-9
10. SAMS Teach Yourself PHP MySQL and Apache in 24 Hours - Julie C Meloni-Sams, ISBN 067232489X
11. PHP manual : <http://www.php.net>
12. HTML, DHTML, Java Script, Perl & CGI, Ivan Bayross BPB Publication.
13. Internet and Web Design, Ramesh Bangia ,New Age International

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**Paper No. : E202**

**Paper Title : Software Engineering**

**1. Introduction to software engineering.**

- 1.1. Software, software characteristics, software engineering
- 1.2. Software development phases -Requirement analysis, design, coding, testing
- 1.3. Role of Software Engineer/Analyst/Users in various phases of SDLC
- 1.4. Software maintenance
- 1.5. Effort distribution
- 1.6. Software development process models: Waterfall model, prototyping, RAD,
- 1.7. Evolutionary software process models

**2. Requirement Analysis**

- 2.1. Study of requirements
- 2.2. Fact finding tools & techniques
- 2.3. Structured analysis
- 2.4. Data modeling using ER Model
- 2.5. Process modeling using Data flow diagrams
- 2.6. Concept of OO modeling through STD (State transition diagram)
- 2.7. Data dictionary

**3. Requirement specifications**

- 3.1. Characteristics and Components of SRS
- 3.2. Requirement specification document

**4. System Design**

- 4.1. Design methodology: Structured design, OO Design
- 4.2. UML tools and techniques for web-based/OO Application (Evening)s
- 4.3. Class hierarchy diagram, Use-Case diagram, Sequence Diagram
- 4.4. Design documentation
- 4.5. Concept of Reverse engineering

**5. Testing & Implementation**

- 5.1. Testing fundamentals
- 5.2. Functional and Structural testing
- 5.3. Testing process
- 5.4. Implementation process

**6. Software Reliability & Quality**

Case studies may be carried out at appropriate stages of the course.

**Reference Books:**

1. Software engineering - A Practitioner's Approach - Roger S Pressman - McGrawth Hill Intl.
2. Software Engineering – Ian Sommerville
3. An integrated approach to software engineering - Pankaj Jalote - Narosa Publication
4. Fundamentals Of Software Engineering - Rajib Mall - PHI
5. Elements of system analysis - Marvin Gore - Galgotia Publicatio

**VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT**  
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**Semester - I**  
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**Paper No. : E203**

**Paper Title : Programming in .NET**

**1. Overview of Microsoft .NET Framework**

- 1.1 The .NET Framework
- 1.2 The Common Language Runtime (CLR)
- 2.3 The .NET Framework class Library
- 2.4 .NET Web Services

**2. Visual Basic .NET programming**

- 2.1 Working with Tool box controls
- 2.2 Working with Menus and Dialog Boxes
- 2.3 Tapping Errors Using Structured Error Handling
- 2.4 Using Modules and Procedures
- 2.5 Using Arrays and Collections

**3. Database access using ADO.NET**

- 3.1 Visual Database Tools
- 3.2 ADO.NET Object Model
- 3.3 ADO.NET Programming
- 3.4 Working With DataSets
- 3.5 Integration with XML
- 3.6 The Middle Tier

**Reference Books:**

- 1. Moving to VB.NET: Strategies, Concepts, and Code by Dan Appleman
- 2. Microsoft Visual Basic .NET Step By Step, Michael Halvorson, PHI
- 3. Database Programming with Visual Basic .NET and ADO.NET by F. Scott Barker - Sams Publishing
- 4. Beginning .NET Web Services Using Visual Basic .NET, Joe Bustos and Karlli Watson, Wrox Publication
- 5. .NET – Complete Development Cycle, G. Lenz, T. Moeller, Pearson Education
- 6. Professional VB.NET, 2nd Edition by Fred Barwell, et al - Wrox Publication
- 7. Mastering Visual Basic .NET Database Programming - Bilgin - BPB Publication.

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**Semester - II**  
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**Paper No. : E204**

**Paper Title : Relational Data Base Management System**

**1 Overview of Database Architecture : Oracle**

- 1.1 Introduction to Database and Instance
- 1.2 Database Structures: Tablespaces, Data Files, Control Files and Redo Log Files
- 1.3 Database Instance : Memory structure & Process Architecture
- 1.4 Database schema and schema objects

**2 SQL Commands**

- 2.1 DDL statements : CREATE TABLE, ALTER TABLE, DROP TABLE
- 2.2 DML statements: SELECT, INSERT, UPDATE, DELETE, TRUNCATE
- 2.3 CREATE SEQUENCE, ALTER SEQUENCE, DROP SEQUENCE,
- 2.4 CREATE INDEX, ALTER INDEX, DROP INDEX,
- 2.5 ROLLBACK, COMMIT, SAVEPOINT
- 2.6 CREATE VIEW, DROP VIEW

**3 Built-in Functions & Group Functions in Oracle**

**4 PL/SQL:**

- 4.1 Data types in PL/SQL
- 4.2 User-defined RECORD data type
- 4.3 Control statements: IF, LOOP, WHILE, FOR
- 4.4 Cursor: Explicit & implicit cursor, Passing parameter to cursor, Declaring cursor variables, Cursor for loop
- 4.5 Exception Handling
- 4.6 Stored Procedures, Local Procedures & Functions,
- 4.7 Packages
- 4.8 Triggers

**Reference Books:**

- 1. Oracle: A Beginner's Guide - Michael Abbey, Michael J. Corey - Oracle press
  - 2. Oracle essential - Rick Greenwald, Robert Stackowiak, Jonathan Stern - O'Reilly Media
  - 3. Database Systems Using Oracle: A Simplified Guide to Sql and Pl/Sql - Nilesh Shah – PHI
  - 4. SQL & PL/SQL Programming Language of Oracle – IVAN BAYROSS -
  - 5. Oracle PL/SQL Programming – Feuerstein & Pribyl, O'Reilly
- Database System Concepts - Henry F. Korth & Abraham Silberschatz - McGraw-Hill

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**Paper No. : E205**

**Paper Title : Practical - III**

**Practical based on Paper No. E201 (PhP)**

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**Paper No. : E206**

**Paper Title : Practical - IV**

**Practical based on Paper No. 203 (VB.Net)**

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**Paper No. : E207**

**Paper Title : Practical - V**

**Practical based on Paper No. E204 (Oracle)**