

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT
Post Graduate Diploma in Computer Application (Evening)
(1st SEMESTER) SYLLABUS

Effective From : July – 2009
PAPER NO. : E101
Paper Title : **COMPUTER ORGANIZATION & FUNDAMENTALS
OF OPERATING SYSTEMS**

1. Memory, Number System & Basic Computer Architecture
 - 1.1. RAM, ROM, PROM, EPROM etc, Virtual Memory, Cache Memory
 - 1.2. Secondary Storage Devices
 - 1.3. Binary, Hexadecimal, Octal Number System
 - 1.4. Integer & Floating Point representation
 - 1.5. Block Diagram of CPU and execution process
 - 1.6. Introduction to bus architecture
 - 1.7. H/W parts of PC
 - 1.8. I/O devices: keyboard, display, pointing devices, modem, scanners, OMR, OCR, CD- ROM, DVD, printers.

2. Operating System Concepts
 - 2.1. Evolution of Operating System & History
 - 2.2. Need of an Operating System
 - 2.3. Single-User & Multi-User Operating System
 - 2.4. Elements of an Operating System

3. Single User Operating System
 - 3.1. BIOS, POST Operation, Vector Table, Device Drivers, TSR Programs
 - 3.2. System Files
 - 3.3. Configuration Files
 - 3.4. Disk Architecture
 - 3.5. Commands
 - 3.6. Introduction to Windows

4. Multi-user Operating System
 - 4.1. Introduction to Windows-NT, UNIX
 - 4.2. LAN Fundamentals
 - 4.3. Basic Commands of NETWARE, Windows-NT, UNIX

Reference Books:

1. Fundamentals of Computer – V. RajaRaman
2. How Computers work - Ron White – Techmedia
3. Introduction to computers :- Peter Norton – TMH
4. Understanding Operating Systems - 4th Ed- Flynn – Thomson Course Technology
5. Inside IBM PC - Peter Norton - PHI
6. Unix Concepts And Application - Das – McGrawHill
7. MS DOS 6.22 – Comdex Computer Publishing
8. Netware for dummies - Dummy Series
9. Advanced MSDOS - Ray Duncon - McGraw Hill
10. Advanced Unix -A Programmer's Guide - Stephen Prata - SAMS
11. User Manual of DOS, Windows-Windows-NT, Netware
12. Operating Systems - Stallings – PHI

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Effective From : July – 2009
PAPER NO. : E102
Paper Title : **DATA BASE MANAGEMENT SYSTEM (DBMS)**

- 1. Basic Concepts of Database Management System.**
 - 1.1 Fundamental concepts of File and databases
 - 1.2 Purpose of database system
 - 1.3 Introduction to Data models
 - 1.3.1 Conceptual Data model – E- R model
 - 1.3.2 Record – base Data models – Hierarchical. Relation , Network
- 2. Features of Database Systems**
 - 2.1 Data abstraction & Data independence
 - 2.2 Type of Database Languages : DDL, DML,TCL
 - 2.3 Database users : Database manager, administrator and Users
 - 2.4 Overall system structure.
- 3. Relational Commercial Language - SQL**
- 5. Commercial DBMS : Microsoft Access / DB2**
 - 5.1 Basic Architecture as DBMS
 - 5.2 Working with databases and tables.
 - 5.3 Managing constrains and relationships.
 - 5.4 Using SQL queries.
 - 5.5 Introduction to other object : Forms , Reports, Macros, etc.
- 6. Integrity Constrains**
 - 6.1 Domain Constrains , key Constrains, Referential Integrity Constrains
 - 6.2 Functional Dependencies
- 7. Relational Database Design**
 - 7.1 Pitfalls in relational database design
 - 7.2 Normalization using Functional Dependencies
 - 7.3 Normalization using Multi valued Dependencies
 - 7.4 Normalization using Join Dependencies
 - 7.5 Domain – Key normal form
- 8. [Self Study]**

Security features provided by access / DB2

Reference Books

1. Database System Concepts – SILBERSCHATZ , KORTH, SUDARSHAN- McGraw- Hill
2. An introduction to Database Systems- C.J.DATE – Addison Wesley
3. Database System : A practical approach to design implementation and management – THOMAS CONNOLLY , CAROLYN BEGG, Pearson Education
4. Access - The Complete Reference – Virginia Andersen – McGraw - Hill
5. Access Database Design & Programming – Steven Roman - O' Reilly
6. Microsoft Access : Bible – Cary N. Prague

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Effective From : July – 2009
PAPER NO. : E103
Paper Title : **COMPUTER PROGRAMMING & PROGRAMMING
METHODOLOGY**

1. Algorithm & Flowcharting
2. Constants & Variables
 - 2.1. Character Set
 - 2.2. Constants - needs & definition
 - 2.3. Variables - needs & definition
 - 2.4. Storage Class
 - 2.5. Scope of Variables
3. Expressions & Operations
 - 3.1. Operators: Assignment, Arithmetic, Increment, Decrement, Relational, Logical, Bitwise, Conditional
 - 3.2. Expression
 - 3.3. Evaluation & Assignment of Expression
4. Basic Input & Output Functions
5. Jumping, Branching & Looping Statements
6. Array
7. Built-in Functions: Arithmetic functions, Data Conversion functions, String functions, Character Classification functions
8. Structure Union & Enumerated data types
9. User Defined Functions
 - 9.1. Call by value
 - 9.2. Passing Structures & Array
 - 9.3. Recursion

10. Pointers

11. Program Bugs & Testing

- 11.1. Program Bugs
- 11.2. Preparing Test data
- 11.3. Functional & Structural Testing

Reference Books:

1. C Language Programming - Byron Gottfried - TMH
2. Programming ANSI C – E Balagurusamy –
3. Let US 'C' – Yashwant Kanitkar
4. Pointers in C – Yashwant Kanitkar
5. C Programming Language - Karnighan & Ritchie – TMH
6. 'C' Odyssey (6 Volumes) - Vijay Mukhi - PHI
7. The Complete Reference - C - Herbert Schildt, Tata Mc Graw Hill
8. Structured programming concepts - La Budde - (Mc.Graw Hill)
9. Programming in 'C' - Stephan Kochan - CBS
10. Mastering Turbo C - Kelly & Bootle - BPB
11. Mastering Turbo C - Stan Kelly - BPB

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Effective From : July – 2009
PAPER NO. : E104
Paper Title : **OFFICE AUTOMATION & WEB DESIGNING TOOLS**

1. WINWORD
 - 1.1. Typing, Editing, Proofing & Reviewing
 - 1.2. Formatting Text & Paragraphs
 - 1.3. Automatic Formatting And Styles
 - 1.4. Working With Tables
 - 1.5. Graphics And Frames
 - 1.6. Mail Merge
 - 1.7. Automating Your Work & printing Documents

2. EXCEL
 - 2.1. Working & Editing In Workbooks
 - 2.2. Creating Formats & Links
 - 2.3. Formatting A Worksheet & creating graphic objects
 - 2.4. Creating Charts (Graphs), formatting and analyzing data
 - 2.5. Organizing Data In A List (Data Management)
 - 2.6. Sharing & Importing Data
 - 2.7. Printing

3. PowerPoint
 - 3.1. Getting started in PowerPoint
 - 3.2. Creating a presentation
 - 3.3. Creating & editing slides
 - 3.4. Previewing a slide show
 - 3.5. Adding picture & graph
 - 3.6. Adding sound & video
 - 3.7. Adding auto shape
 - 3.8. Animating objects

4. Introduction to Internet
 - 4.1. Internet Protocols http, ftp, TCP/IP etc
 - 4.2. Internet Utilities e-mail, chat, searching etc.

5. Web Browsers
6. Web Server
7. HTML
 - 7.1. HTML Tags
8. JavaScript
 - 8.1. Fundamentals of JavaScript
 - 8.2. Syntax of JavaScript
 - 8.3. Use of JavaScript in HTML
 - 8.4. Validation using JavaScript
9. CSS
 - 9.1. What is CSS?
 - 9.2. Advantage & Disadvantage of CSS
 - 9.3. Creating CSS
 - 9.4. Use of CSS in HTML
 - 9.5. Formatting HTML page using CSS

Reference Books:

1. WORD 6 for Windows Quick & easy Reference - Mansfield – BPB
2. Mastering WORD 6 for Windows - Mansfield –
3. Mastering EXCEL 4 for Windows - Townsend -
4. Mastering EXCEL 4 for Windows - Chester - BPB
5. EXCEL 5 for Windows Quick & Easy - Jones - TECH
6. SAMS Teach Yourself JavaScript in 24 Hours – Michael G Moncus – Sams Publication
7. JavaScript for the World Wide Web – Tom Negrino, Dori Smith – Peachpit Press
8. Beginning JavaScript – Wilton, Apress, Shroff Publishers & Distributors Pvt. Ltd.
9. Speed up Your Site: Website Optimization – Andrew B King – New Riders
10. Absolute Beginner's Guide to Microsoft 2003 – Jim Boyce – QUE Publishing
11. Microsoft Office XP Comprehensive Course – Favro, Labyrinth, Shroff Publishers & Distributors Pvt. Ltd.

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT
Post Graduate Diploma in Computer Application (Evening)
D. C. A. (1st SEMESTER) SYLLABUS

Effective From : July – 2009
PAPER NO. : E105
Paper Title : **PRACTICALS**

Practical shall be conducted as mentioned in the Teaching Scheme for Papers E102, E103 and E104. Separate journals for Paper No. 102, 103 & 104 should be prepared.

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT
Post Graduate Diploma in Computer Application (Evening)
(2nd SEMESTER) SYLLABUS

Effective From : July – 2009
PAPER NO. : E301
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. Object Oriented Programming
 - 3.1 Creating Classes, Object Construction & Destruction
 - 3.2 Class Libraries : DLL's & Static Classes
 - 3.3 Abstraction, Encapsulation & Polymorphism
 - 3.4 Interfaces & Inheritance
 - 3.5 Object Serialization

4. Database access using ADO.NET
 - 4.1 Visual Database Tools
 - 4.2 ADO.NET Object Model
 - 4.3 ADO.NET Programming
 - 4.4 Working With DataSets
 - 4.5 Integration with XML
 - 4.6 The Middle Tier

5. Introducing ASP.NET
 - 5.1 Overview of ASP.NET
 - 5.2 Building Web Forms
 - 5.3 Maintaining State in Web Applications
 - 5.4 Caching & Configuration
 - 5.5 Accessing Databases from ASP.NET

6. The Web Data Controls

7. Working With WebServices

References :

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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Effective From : July – 2009
PAPER NO. : E302
Paper Title : Practical

Practical Based on E301