VEER NARMAD SOUTH GUJARAT UNIVERSITY

Revised syllabus

B.C.A.

Semester IV

Effective from year 2007-08

VEER NARMAD SOUTH GUJARAT UNIVERSITY

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Semester - IV

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Teaching and evaluation scheme

B.C.A.

Semester - IV

Paper No. & Title	Teaching Schedule	University Examination		Internal Examination		Total
	Lect./Prac. (Hrs.)	Duration (Hrs.)	Marks	Duration (Hrs.)	Marks	
401: Information systems	4.5	3	70	2	30	100
402: GUI Tool	4.5	3	70	2	30	100
403: Relational DBMS	4.5	3	70	2	30	100
404: Multimedia & Web Designing	4.5	3	70	2	30	100
405: Computer Network	4.5	3	70	2	30	100
406: Practical (Based on 402 to 404)	9	5	140	3	60	200

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Paper – 401

Title: Information System L : 4.5 Hrs

Objective: To familiarize students with various information systems.

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1. Introduction :
   - 1.1 Data and information
   - 1.2 Information need and benefits
   - 1.3 Input, processing. Output and feedback
   - 1.4 Manual and computerized information system.

2. Concepts of systems
   - 2.1 Definition of system in an organization
   - 2.2 Business as a system
   - 2.3 Types of systems
     - 2.3.1 Deterministic probabilistic systems
     - 2.3.2 Open and close systems
   - 2.4 Overview of business functions in an organization

3. Introduction to various information systems
   - 3.1 Business information systems
     - 3.1.1 Transaction processing systems
     - 3.1.2 Work flow systems
     - 3.1.3 ERP
   - 3.2 Management information systems
   - 3.3 Decision support systems

4. Transaction processing systems
   Overview of transaction processing system
   - 1.1 Transaction processing methods and objectives
   - 1.2 Transaction processing activities
     - 1.2.1 Data collection
     - 1.2.2 Data editing
     - 1.2.3 Data correction
     - 1.2.4 Data manipulation
     - 1.2.5 Data storage
     - 1.2.6 Document production and reports
   - 1.3 Traditional transaction processing applications
     - 1.3.1 Order processing systems
     - 1.3.2 Purchase systems
     - 1.3.3 Accounting systems

2. Case study
   2.1 Information system for academic institution.
   2.2 Information system for departmental store.

Reference Books :-

1. Ralf M. Stair & George W. Reynolds – Principles of information system Thomson Learning publisher.

2. NCC – Introduction to system analysis and Design – Galgotia Publications

3. CVS Murthy – Management information systems – Text & Applications – Himalaya Publication house.

4. K.C.Laudan & J.P.Laudan – Management information systems – organization and technology – fourth edition – Prentice Hall India.

5. W.S.Jawadekar – Management information system – Tat McGraw Hill.

6. J.Buffam – E-Business and IS Solutions – Addition Wesley.

7. Efraim Turban & Jay E.Aronson – Decision Support System and Intelligence Systems – Addition Wesley.

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Paper – 402

Paper Title **: GUI TOOL** [L : 4.5]

Prerequisite : Programming language - BASIC.

Aim & Objective: To make students aware with front-end tool.

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1. Using Visual Basic Default Controls

2. Visual Basic Programming Fundamentals

3. Events & Procedures

4. Dialog Boxes

5. Menus & Toolbars

6. Managing the Project
    6.1 Sub Procedures, Functions and Multiple Forms

7. Microsoft Common Controls

8. MDI Applications

9. Databases
    9.1 Data Control & Data Bound Controls
    9.2 Introduction to Data Access Objects (DAO)
    9.3 ActiveX Data Objects (ADO)
        9.3.1 Using ADO Data Control

10. Creating Reports using tools like Crystal Report

Reference Books:

1. John Smile : Learn to Program with VB 6 - Microsoft Press
1. Paul Sherif teaches VB 6 – PHI
2. John Connel : Beginning Visual Basic 6 Database Programming - Wrox
3. Dulaney: Mastering Visual Basic 6.0 - TMH

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Paper – 403

Paper Title : **RELATIONAL DATA BASE MANAGEMENT SYSTEM** **[L : 4.5]**
Prerequisite : DBMS.
Aim & Objective: To teach concepts of Relational Database Management System

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1. Codd's Laws for Full Functional Relational Database Management system

2. Introduction to Oracle Tools
    - 2.1 Oracle DBA
    - 2.2 SQL*Plus

3. Interactive SQL
    - 3.1 Oracle Datatypes
    - 3.2 Oracle DDL & DML
    - 3.3 Operators
    - 3.4 Oracle Functions
    - 3.5 Range Searching
    - 3.6 Pattern Matching
    - 3.7 Manipulating Dates
    - 3.8 Joins
    - 3.9 SubQueries
    - 3.10 Using Union, Intersect and Minus Clause
    - 3.11 Indexes
    - 3.12 Views
    - 3.13 Sequences
    - 3.14 Granting & Revoking Permissions

4. PL/SQL
    - 4.1 PL/SQL Block Structure
    - 4.2 Oracle Transactions
    - 4.3 Concurrency Control in Oracle
    - 4.4 Cursor
    - 4.5 Error handling in PL/SQL

5. Stored Procedures & Stored Functions

6. Database Triggers

Reference Books:

1. George Koch : The Complete Reference - Oracle Press
2. Oracle 8 PL/SQL Programming - Oracle Press
3. David C Kreines : Oracle SQL : The Essential Reference - O'Reilly

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Paper – 404

Paper Title : **Multimedia & Web Designing** [L : 4.5]

Aim & Objective: To teach Web designing

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1. Multimedia Introduction
    - 1.1 Facets (Components)
    - 1.2 Application
2. Graphics:
    - 2.1 Image Compression Technology
        - 2.1.1 Lossy Compression
        - 2.1.2 Lossless Compression
    - 2.2 Bitmap & Vector Graphics
    - 2.3 File Formats
        - 2.3.1 JPEG, GIF, PNG
3. Creating Web Sites
    - 3.1 Using Front Page
        - 3.1.1 Table
        - 3.1.2 Form
        - 3.1.3 Frame
        - 3.1.4 Link Bars
        - 3.1.5 Theme
        - 3.1.6 Font
        - 3.1.7 Picture
        - 3.1.8 DHTML Effects
        - 3.1.9 Styles
        - 3.1.10 Publish
    - 3.2 Using HTML
        - 3.2.1 Structure
        - 3.2.2 Text and Paragraph Formatting Tags
        - 3.2.3 Headings
        - 3.2.4 Lists
        - 3.2.5 Links
        - 3.2.6 Table
        - 3.2.7 Form
        - 3.2.8 Frame
        - 3.2.9 Image Maps
        - 3.2.10 Audio & Video Tags
        - 3.2.10 CSS (Embedded & Importing)
            - 3.2.10.1 Properties
              Font, Text, Margin, Border, List, Color & Background, Box

4 DHTML & JavaScript
- 4.1 Static, Dynamic and Active Page
- 4.2 DHTML Events
  - 4.2.1 Window, Form, Keyboard, Mouse
- 4.3 JavaScript
  - 4.3.1 Overview of Client & Server Side Scripting
  - 4.3.2 Structure of JavaScript
  - 4.3.3 Basic Commands of JavaScript
    - 4.3.3.1 Functions
    - 4.3.3.2 Operators
    - 4.3.3.3 Looping Statements

5 Hosting Web Pages
- 5.1 Domain Name System
- 5.2 Protocols
  - 5.2.1 Window based FTP (Upload & Download)
- 5.3 Role of Web Server in web publishing
  - 5.2.1 Communication between Web Server & Web Browser

6. 2D Animation (Using Flash 5.0)
- 6.1 Introduction
- 6.2 Toolbox & Toolbars
- 6.3 Types of Animation
  - 6.3.1 Key Frame
  - 6.3.2 Tweening
    - 6.3.2.1 Shape
    - 6.3.2.2 Motion
- 6.4 Use of Movie Clips, Buttons, Graphics
- 6.5 Scripting
  - 7.5.1 Basic Actions
    - Go To, Play, Stop, Get URL, FSCommand, LoadMovie
- 6.6 Layers
  - 6.6.1 Concepts
  - 6.6.2 Uses
  - 6.6.3 Inserting and Deleting
  - 6.6.4 Motion guide Layer
- 6.7 Publishing Animation

Reference Books:

1. Microsoft Frontpage 2000 – T. J. O'Leary – TMH
2. Microsoft Frontpage 2000 24 Hours – Roger C. – Techmedia
3. Advanced HTML companion – Keith S. & Roberts – AP Professional
4. Principles of Interactive Multimedia – Elsom Cook – TMH
5. 3D Computer Animation – Vince – Addison Wesley
6. How to create Web pages using HTML – K. Laudon – TMH
7. 3D Graphics tips, tricks & techniques – Calwick – AP Professional
8. Mastering Photoshop 6.0 - BPB publications Steve Romaniello

8. Flash 4 Bible - IDG Books India Reinhardt, Robert
9. Flash 4 : Magic – Techmedia Emberton, David J.
10. The Complete Reference HTML – TMH Powel, Thomas A.
11. HTML Unleased - Techmedia Darnell Rick
12. Microsoft FrontPage 2002 24 Hours - Techmedia (SAMS), Rogers Cadenhead

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Paper – 405

Paper Title : **Computer Network** [L : 4.5]

Prerequisite : Operating System & Computer Organization

Aim & Objective: To teach fundamental concepts of networks and give hands on training of network installation and configuration.

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1. An Introduction to Networks, Network Topologies and Types
- 1.1. Introduction: Networking
- 1.2. Information: Exchange, Sharing, preserving and protecting
- 1.3. Hardware and Software Resource sharing
- 1.4. Need, Uses and Advantages of Network
- 1.5. Networks Tools, Tasks & People
- 1.6. Clients, Servers, Peers based and Hybrid Networks
- 1.7. Server types
- 1.8. Network Topologies (Bus, Star, Ring, Star Bus, Star Ring and Physical Mesh)
- 1.9. Network (Transmission) Media (Wires, Cables, Fiber Optics , Waves…)
- 1.10 Defining Network Protocols (H/W Protocols, S/W Protocols, H/W – S/W Interface)

2 The OSI Model
- 2.1 Introduction to OSI Model
- 2.2 The OSI Model Lower Layer Functions (Physical and Data Link Layers)
- 2.3 The OSI Model Middle Layer functions (Network and Transport Layers)
- 2.4 The OSI Model Upper Layers Functions (Session, Presentation and Application Layers) es

3. Home Network Technologies
- 4.1 Standard Ethernet Cabled networks
- 4.2 Phoneline networks,
- 4.3 Wireless networks
- 4.2 Hybrid wireless-wired Networks

4 Network H/W
- 5.1 Cable installation considerations, Ethernet cable types and their usage
- 5.2 Installing and configuring Network Cards
- 5.3 Introduction: Repeater, Hub, Switch, Router, Gateways

5. Network S/W (Operating Systems)

- 6.1 What is Network Operating system?
- 6.2 Common features of Different Operating Systems (Windows 95-98-NT workstation)

5.2 Comparing popular Network Operating Systems (Client Operating Systems, Server Operating System)

6 Network design basics
- 6.1 Defining Enterprise Network Applications (Enterprise Vs Workgroup scope, Client/server vs Web based)
- 6.2 Application Clients, BackOffice and off-the-shelf server applications
- 6.3 Evaluating current network environment (Infrastructure, protocols and Hosts)
- 6.4 Assessing Network services (Network monitoring, Metrics monitoring, TCP/IP services, security monitoring, Fault-Tolerance Monitoring, Web Monitoring)
- 6.5 TCP/IP infrastructure and current hardware
- 6.6 Analyzing the technical support structure(Network manager support, End-user Support)
- 6.7 Analyzing the current Network Management

7. Managing Network Connections
- 7.1 Reviewing Networking and internet protocols
- 7.2 Network s/w: Drivers, protocols, services, Redirectors, Multiple Transport Stack, Network Binding Interfaces)
- 7.3 Installing and configuring Network adapters
- 7.4 Installing and Configuring TCP/IP Protocol
- 7.5 Managing network bindings
- 7.6 Sharing files and Printers

8. Building Internet and Intranet Infrastructure
- 8.1 Elements of TCP/IP network
- 8.2 IP address scheme, assigning IP addresses
- 8.3 Routing issues
- 8.4 Configuring Windows 2000 server(TCP/IP properties, Static routing)
- 8.5 Testing IP network

9. Network security introductory concepts and terminology
- 9.1 Various types of securities
- 9.2 Security with certificates
- 9.3 Firewalls

BOOKS:-

1. Networking Complete – 3rd Edition -- BPB Publication (Text Book)
2. Mastering Local Area Networks By – Christa Anderson & Mark Minasi -BPB Publication
3. MCSE: Networking Essentials Study Guide -- Tata McGrawHill Publication
4. MCSE: Windows 2000 N/W Infrastructure design - Tata McGraw Hill Publication
5. MCSA/MCSE : Windows 2000 professional study guide - Tata Mc Graw Hill Publication
6. Computer Networks - TeananBaum - PHI
7. Data Communication & n/w - B Forouzan , Tata Mc Graw Hill

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Paper – 406

Paper Title : Practical [P : 9 Hrs]

Practical shall be conducted as mentioned in the Teaching Scheme for Papers 402 to 404. Separate journals for Paper No. 402 to 404 should be prepared.
