

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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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.

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.

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

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

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.

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 Phonenumber 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.
