

VEER NARMAD SOUTH GUJARAT UNIVERSITY – SURAT
Bachelor of Computer Application (B.C.A) 2nd Year
Syllabus

S. Y. B. C. A. Semester 4
Effective From: June-2010

Paper No.: 401

Paper Title: Information Systems

1. Introduction

- 1.1. Data & 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 (MIS)
 - 3.2.1. Characteristics of MIS
 - 3.2.2. Development Process of MIS
- 3.3. Decision Support Systems

4. Transaction Processing Systems

- 4.1. Overview of Transaction Processing System
- 4.2. Transaction Processing Methods & Objectives
- 4.3. Transaction Processing Activities
 - 4.3.1. Data Collection
 - 4.3.2. Data Editing
 - 4.3.3. Data correction
 - 4.3.4. Data Manipulation
 - 4.3.5. Data Storage
 - 4.3.6. Document Production and Reports
- 4.4. Traditional Transaction Processing Applications
 - 4.4.1. Order Processing Systems
 - 4.4.2. Purchase Systems
 - 4.4.3. Accounting Systems

5. Case Study (At Least Two)

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-HPH
4. K. C. Laudan & J. P. Laudan - Management information Systems – Organization and technology – Forth Edition – Prentice Hall India.
5. W. S. Jawadekar – Management information system – Tata McGraw Hill.
6. J. Buffam – E-Business and IS Solutions – Addition Wesley.
7. Efraim Turban & Jay E. Aronson – Decision Support System and Intelligence Systems –Additional Wesley.

S. Y. B. C. A. Semester 4
Effective From: June-2010

Paper No.: 402

Paper Title: .NET PROGRAMMING

1. Overview of Microsoft .NET Framework

- 1.1. The .NET Framework
- 1.2. The Common Language Runtime (CLR)
- 1.3. The .NET Framework class Library

2. Visual Basic .NET Programming

- 2.1. Working with Tool Box Controls
 - 2.1.1. Common controls – Label, Text Box, Button, Check Box, Radio Button, Date Time Picker, List Box, Combo box, Picture Box, Rich Text Box, Tree View, Tool Tip, Progress bar, Masked Text box, Notify Icon, Link Label, Checked List box
 - 2.1.2. Container
 - 2.1.3. Data – Data Set, Data Grid
 - 2.1.4. Component – Image list, error provider, Help provider, Timer
- 2.2. Working with Menus and Dialogue Boxes
- 2.3. Exception Handling
 - 2.3.1. Structured Error Handling
 - 2.3.2. Unstructured 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. Abstraction, Encapsulation & Polymorphism
- 3.3. Interfaces & Inheritance

4. Database access using ADO.NET

- 4.1. Visual Database Tools
- 4.2. ADO .NET Object Model
- 4.3. ADO .NET Programming

Reference Books:

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

S. Y. B. C. A. Semester 4
Effective From: June-2010

Paper No.: 403

Paper Title: 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, Literals, Keywords & Variables
- 3.2. Operators
- 3.3. Data Types

4. Control Structures

- 4.1. Branching: If – else, Switch
- 4.2. Looping: While, Do-while, For

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. 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 Class

- 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 – Addison Wesley (Pearson Education)
2. Patrick Naughton – Java - The Complete Reference – Tata McGraw Hill
3. Samuel A. Rebelsky – Experiments in Java : An Introductory Lab Manuals – Addison Wesley (Pearson Education)
4. Steven Haines – Java 2 From Scratch PHI.
5. E Balagurusamy - Programming with Java
6. Java: How to Program – Deitel & Deitel - PHI

S. Y. B. C. A. Semester 4
Effective From: June-2010

Paper No.: 404

Paper Title: WEB DESIGNING

1 Creating Web Sites

Using Front Page

Table

Form

Frame

Link Bars

Theme

Font

Picture

DHTML Effects

Styles

Publish

Using HTML

Structure

Text and Paragraph Formatting Tags

Headings

Lists

Links

Table

Form

Frame

Image Maps

Audio & Video Tags

CSS (Embedded & Importing)

Properties: Font, Text, Margin, Border, List, Color & Background, Box

2 DHTML & Java Script

Static, Dynamic and Active Page

DHTML Events

2.2.1 Window, Form, Keyboard, Mouse

Java Script

Overview of Client & Server Side Scripting

Structure of JavaScript

Basic Commands of JavaScript

Functions

Operators

Looping Statements

3 Hosting Web Pages

Domain Name System

Protocols

Window based FTP (Upload & Download)

Role of Web Server in Web Publishing

3.3.1 Communication between Web Server & Web Browser

4 2D Animation (Using Flash)

Introduction

Toolbox & Toolbars

Types of Animation

Key Frame

Tweening

Shape

Motion

Use of Movie Clips, Buttons, Graphics

Scripting

4.5.1 Basic Actions

Go To, Play, Stop, Get URL, FSCommand, LoadMovie

Layers

4.6.1 Concepts

4.6.2 Uses

4.6.3 Inserting and Deleting

4.6.4 Motion guide Layer

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. How to create Web Pages using HTML – K. Laudon - TMH
5. Flash Bible – IDG Books India Reinhardt, Robert
6. Flash: Magic – Techmedia Emberton, David J.
7. The Complete Reference HTML – TMH Powel, Thomas A.
8. HTML Unleashed – Techmedia Darnell Rick
9. Microsoft FrontPage 2002 24 Hours – Techmedia (SAMS), Rogers Cadenhead
10. JavaScript Programming for the Absolute Beginner – Harris – PHI
11. JavaScript Step by Step – Suehring – PHI
12. Cascading Style Sheets-The Definitive Guide – E. A. Meyer – O’Reilly

S. Y. B. C. A. Semester 4
Effective From: June-2010

Paper No.: 405

Paper Title: COMPUTER NETWORK

1. An Introduction to Networks, Network Topologies and Types

- 1.1 Introduction: Networking, LAN, MAN, WAN
- 1.2 Information: Exchange, Shaping, Preserving and Protecting
- 1.3 Method of Delivering- Unicast, Multicast, Broadcast
- 1.4 Hardware and Software Resource Sharing
- 1.5 Need, Uses and Advantages of Network
- 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 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 Layer Functions (Session, Presentation and Application Layers)

3. Network H/W

- 3.1 Network Media (Cables, Fiber Optics)
- 3.2 Role, Installing and Configuring Network Cards
- 3.3 Introduction: Repeater, Hub, Switch, Router, Gateways

4. Network S/W (Operating System)

- 4.1 What is Network Operating System?
- 4.2 Common features of Different Operating System (Windows 95-98-NT workstation)
- 4.3 Common popular Network Operating Systems (Client Operating System, Server Operating System)

5. Managing Network Connections

- 5.1 Reviewing Networking and internet protocols
- 5.2 Network S/W: Drivers, Protocols, Services, Redirectors, Multiple Transport Stack, Network Binding Interfaces
- 5.3 Installing and Configuring Network Adapters
- 5.4 Managing Network Bindings
- 5.5 Sharing Files and Printers

6. Basic of TCP/IP

- 6.1 IP Address, IP Subnet
- 6.2 Introduction of UDP and TCP
- 6.3 Installing, Basic and Advance Configuring TCP/IP Protocol

7. Network Security Introductory Concepts and Terminology

- 7.1 Various Types of Securities
- 7.2 Securities with Certificates: Concept of Encryption, Decryption, Cryptography, Public-Key, Secret-Key, Digital Signature, PKI
- 7.3 Firewalls

Reference Books:

- 1 Computer Networks - by A. S. Tanenbaum Prentice Hall
- 2 Networking complete – 3rd Edition – BPB Publication (Text Book)
- 3 Mastering Local Area Network - by Christa Anderson & Mark Minasi – BPB Publication
- 4 MCSE: Networking Essentials Study Guide – Tata McGraw Hill Publication
- 5 MCSE: Windows 2000 N/W Infrastructure Design – Tata McGraw Hill Publication
- 6 MCSA/MCSE: Windows 2000 Professional Study Guide – Tata McGraw Hill Publication
- 7 Data Communication & N/W – B Forouzan, Tata McGraw Hill

S. Y. B. C. A. Semester 3
Effective From: June-2010

Paper No.: 406

Paper Title: Practical

All Students have to carry out practical work in Subjects - 402, 403 & 404