

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT
M.Sc. (I.T.) [Five Year Integrated Course]
B.Sc. (Information Technology)
Semester IV
Teaching and Evaluation Scheme

Paper Sr. No.	Paper Title	Teaching Schedule (Hours/Week)		University Exam Theory / Practical Duration		Internal Exam Theory / Practical Duration		Total Theory / Practical
		Lect	Prac	Hrs.	Marks	Hrs.	Marks	
401	VADT – I	4	-	3	70	2	30	100
402	Object Oriented Programming	4	-	3	70	2	30	100
403	Microprocessor & Assembly Language	4	-	3	70	2	30	100
404	Web Development - I	4	-	3	70	2	30	100
405	E-Business	4	-	3	70	2	30	100
406	Practicals		10	5	140	3	60	200
Total		30			490		210	700

VADT - Visual Application Development Techniques

WADT -Web application Development Techniques

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Paper No : 401 **L: 4, T:0, P:0 Hrs**
Paper Title : Visual Application Development Techniques – I

1. Using Visual Basic Default Controls

Text Boxes, Label Control, Check Boxes, Option Buttons, Picture Boxes and Image Controls, List Controls

2. Visual Basic Language

Variables, Constants, Arrays, Collections, Functions, Flow Control Statements, Loop Statements

3. Forms

4. Menus & Toolbars

5. Database Programming

6. Dialog Boxes

Message Boxes, Input Boxes, Common Dialogs

7. Report Generation

8. User Defined Controls

ActiveX Controls, ActiveX Documents, ActiveX DLL and EXE

Main Readings:

1. Beginning VB 6 – Peter Wright – Wrox

Supplementary Readings:

1. Peter Norton's Guide to VB 6 – Peter Norton - SAMS
2. VB 6 How to program – Deitel & TR Nieto – Pearson
3. VB 6 Unleashed – Rob - SAMS
4. VB 6 Super Bible – David Jung – Techmedia
5. Desktop Applications with VB 6 – Microsoft & PHI

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Paper No : 402

L: 4, T:0, P:0 Hrs

Paper Title : Object Oriented Programming

1. Pointers and Self Referential Structures

2. Principles of Object Oriented Programming

Procedure Oriented Programming Vs Object Oriented Programming
Basic Concepts of Object Oriented Programming (Encapsulation, Polymorphism etc.), Benefits of Object Oriented Programming

3. Classes & Objects

4. Constructors & Destructors

5. Operator Overloading, Functional Overloading & Type Conversions

6. Inheritance

7. Dynamic Polymorphism

8. Data Files

Main Readings :

1. Object Oriented Programming with C++: Balaguruswami
2. OOP in Turbo C++: Robert Lafore : Galgotia Publication

Supplementary Readings :

1. C++ Primer :Lippman : Addison Wesley
2. Object Oriented Programming Fundamentals & Applications: Probal Sengupta : PHI
3. The Complete Reference: Schildt: Osborne
4. The C++ Programming Language: Stroustrup : Addison Wesley

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Paper No : 403

L: 4, T:0, P:0 Hrs

Paper Title : Microprocessor & Assembly Language

1. Introduction to Microprocessors.

Typical requirements of architecture: Batch Processing , Multiprogramming , Time sharing & Multitasking Systems ; Intel 8086 architecture , Internal Operation , Addressing Modes , Intel 8086 Configurations-Minimum Mode and brief introduction of Maximum Mode , Intel 8086 System Connections , System Bus Timing

2. Intel 8086 Family assembly Language Programming

Program Development Stage , Programming with the use of Assembler and other Development Tools like Loader , Compiler , Locator , debugger , Assemble Instruction Format , Practice with Simple sequence Programs , Flags , jumps , etc . Implementation of Decision making, Multiple Branching and Iterative Looping Controls with Assembly Language instructions, String Instructions, Stack manipulation. Writing & Using Procedures, Macros & Debugging of Assembly Language Programs, Assembly Directives. Use of DOS / BIOS interrupts. Using C with Assembly language Programming.

3. Programmable Peripherals Devices

Memory and I/O Addressing for Microcomputer Systems. Overview of Intel 8255 Programmable Peripheral Interface, Programmable Timer/Counter & Clock Generator - INTEL's 8253/8254, Programmable keyboard/Display 8279, Programmable Interrupt Controller 8259, DMA Controller 8257

4. Interrupts Management

Intel 8086 interrupts, IVT, acknowledgment cycle, typical 8086 response. Different types of Interrupts, Interrupt Service Routines, TDR's, Block transfers and Interfacing DMAC - IC 8237.

5. Advanced Microprocessors

Overview of 80286, 80386, 80486, Pentium architectures.

6. Bus Standards

Overview study of the PC, PC - AT, ISA, EISA, IEEE -488 Bus, IDE, EIDE, SCSI, VESA, PCI, PC Card (PC MCIA) Bus .

Main Readings:

- 1 Microprocessor & Interfacing: Douglas Hall, McGraw Hill
- 2 8086/8088 family architecture, programming & design : Yu Chang Liu & Gibson, PHI
- 3 Programming & Interfacing, J Uffenbech, PHI

Supplementary Readings:

- 1 Advance MS-DOS Programming – Ray Duncan
2. The Intel Microprocessors – Fourth Edition – Barry B. Brey – PHI
3. IBM PC and its Clones: Govind Rajalu: TMH Publication , 1994.

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Paper No : 404

L: 4, T:0, P:0 Hrs

Paper Title : Web application Development Techniques – I

1. Introduction WWW and Internet

World Wide Web Consortium, W3C Charter and its work,
Web Hosting
Internet Domains, Internet Servers, IP addressing
Web Server and Web Browsers

2. Introduction to HTML

HTML Structure
Document Head, Document Body, Title and Footer

3. Text Formatting

Paragraph breaks, Line breaks, Bold, Italics, Underline, Spacing,
Heading style, Line breaks

4. Links

External, Internal, Image as Hyperlink, Image Maps

5. Tables

Header, Data rows, and Caption, Width and Border, CELLPADDING,
CELLSPACING, BGCOLOR, COLSPAN, ROWSPAN

6. Forms

Text, Button, Radio, Checkbox, Password, Hidden, Button, Textarea, Label,
Submit and Reset, Tab Navigation, Access Keys

7. Frames

FRAMESET, FRAME, Targeting named frames, Communicating between
Frames, Inline Frames

8. Embedding Object

OBJECT tag, Adding dynamic content with OBJECT

9. Cascading Style Sheet (CSS)

Style Sheet Types, Linked, Embedded, Inline, Style Sheet Precedence,
Style Sheet Syntax, Using Classes, Using Media Types, Font Control,
Text Control, Color and Background, List Box Control, Miscellaneous
Properties, Defining Aural Style Sheets, Controlling Position with CSS,
Box Model, Margin and Padding Properties, Border Properties, Tables,
Absolute versus Relative Properties, Pages Media

10. Layering

Controlling visibility and Stacking order, Z-index property, Visibility property

11. HTML Editors (FrontPage, Visual Interdev)

12. Flash

Flash Interface, Menus and Settings ,Drawing and Painting , Creating and using symbols, Text, Layers, Timelines, Graphics, Animation and Sound Exporting and Publishing Movies

Main Readings:

1. The complete Reference HTML – Thomas – TMH
2. HTML 4 Unleashed – Rick - SAMS
3. Flash 5 Bible – Robert – IDG

Supplementary Readings:

1. Microsoft Frontpage 2000 - T. J. O'Leary - TMH
2. Microsoft Frontpage 2000 24 Hours - Roger C. - Techmedia
3. HTML 4 – Rick - SAMS
1. Web Publishing with HTML 4 in 21 Days – Laura – SAMS

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Paper No : 405

L: 4, T:0, P:0 Hrs

Paper Title : E-Business

1. Information Technology And Business

Introduction, The customer driven supply chain, Information Age, Origins of the Internet, The evolution of Internet, The spread of Internet, Definition of Internet, The underlying network and its goals, Internet today, Electronic Commerce

2. Fundamentals Of E-Commerce

Introduction, Objectives,
Commerce – The Traditional way
The Buyer, The Seller
History of Electronic Commerce, Definition of Electronic Commerce,
Comparison between Traditional Commerce and E-Commerce, The Technologies of E-Commerce, Advantages of E-Commerce, Disadvantages of E-Commerce, International Electronic Commerce,
Infrastructural requirements for E-Commerce
Technology Overview, Packet switched networks, The TCP/IP Internet Protocol, Internets, Intranets and Extranets

3. Types Of E-Commerce

Introduction, Objectives, Types of Business Transactions, Business to Customer, Customer to Customer, Business to Business

4. Security Of E-Commerce

Introduction , Learning Objectives, Security Overview, Computer Security Classification, Copyrights and Intellectual Property,
Electronic Commerce Threats
Communication Channel Threats, Secrecy Threats, Integrity Threats,
Necessity Threats, Server Threats, Web Server Threats, Database Threats,
Common Gateway Interface Threats, Other Programming Threats
CERT - Computer Emergency Response Term

5. Security Concerns

Introduction, Objectives, Security concerns, Combating E-commerce Threats, Protecting Intellectual Property, Protecting Client Computers, Digital Certificate, Dealing with Cookies, Using Antivirus Software, Protecting Electronic, Commerce Channel, Providing Transaction Privacy, Encryption, Data Encryption Standard (DES), Comparison between Public key and Private key encryption methods, Secure E-commerce, Secure Sockets Layer protocol, Secure HTTP (S-HTTP) protocol, Ensuring Transaction Integrity, Guaranteeing Transaction Delivery

6. E-Transactions

Introduction, Objectives, The Basics, Credit and Charge cards, Open and Closed Loop Systems, Merchant Account, Secure Electronic Transaction (SET) Protocol, Dual Signature Scheme, Electronic Cheque Payment, Electronic Cash, Holding Electronic Cash, Advantages and Disadvantages of Electronic Cash, How Does Electronic Cash Work, Security for Electronic Cash, Electronic Wallets, Smart Cards, Micro-Payment for Information Goods

7. Implementing An E-Commerce Site

Introduction, Objectives, Web presence goals, Achieving Web presence goals, How the Web is different, Meeting the needs of Web site visitors, Usability Testing
Identifying and Reaching customers
Communication on the Web, The Web 's new marketing approaches, Technology-enabled Relationship management
Creating and maintaining Brands on the Web
Elements of Branding, Rational Branding vs. Emotional Branding

Main Readings:

1. Frontiers of Electronic Commerce: Kalakota and Whinston: Addison Wesley
2. Electronic Commerce: A Managerial Perspective: Efraim Turban, Jac Lee, David King, H. Michel Chung: Pearson Education Asia

Supplementary Readings:

1. IT Encyclopaedia.com : Volume 8: Parag Diwan & Sunil Sharma : E-Commerce Pentagon Press
2. E-Commerce Strategies: Charles Trepper: PHI

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Paper No : 406

L: 0, T:0, P:10 Hrs

Paper Title : Practicals.

Practical shall be conducted in Papers 401, 402 and 404