

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT
M.Sc. (I.T.) [Five Year Integrated Course]
M.Sc. (Information Technology)
Semester IX

Paper No : 903 **L: 4, T:0, P:0 Hrs**
Paper Title : Elective–I WADT – III (Web Application Development Techniques)

1 Introduction to LINUX

2 The GNU Projects, free software foundation and Linux distribution

3. LINUX Architecture

4. Introduction to PHP

5. Language features

Language constructs, Variables, declarations and types, Constants,
Use of Operators, Control Structures, Functions

6. Object Oriented Features of PHP

Classes and Objects, Use Of constructors, Serialization

7. PHP inbuilt Functions

String Functions, Array Functions, Mathematical Functions, Graphics Library (GD support), File System Functions, Date and Time Functions, Misc. Functions

8. Database concepts with PHP

9. Perl Basic

Introduction, Data types, Operators, Control statements, Arrays

10. Functions

String Functions, Array Functions, Mathematical Functions, Time/Date Functions, File Handling, Understanding files & Directories, Opening & Closing files, Working with Directory

11. Database Connectivity

Database access using perl, ODBC object method

12. MySQL Database Server

Configuring the MySQL Server, Starting MySQL Server, MySQL Tables, Displaying MySQL Database, Adding and removing user access, Checking and fixing database

13. Red Hat Linux Network and Server Setup

14. Setting up a Local Area Network

15. Print Server

Choosing CUPS or LPRng Print Services, Setting up printer, Working with CUPS printing, Managing printers, Using printing commands, Configuring print servers

16. File Server

NFS , Samba, Netware

17. Mail Server

Introduction to SMTP and sendmail, Installing and running sendmail, Configuring sendmail, Introducing Postfix, Getting mail from the server (POP), Administering a mailing list

18. FTP Server

Understanding FTP server, Secure FTP server (vsFTPD)

19. Web Server

Introduction to web server, Configuring Apache web server, Starting and stopping web server, Monitoring server activities

References:

1. Red Hat Linux Bible – Nigus – Wiley
2. Linux in NutShell – Ellen Siever
3. Linux Application Development – Michal K Jhonson
4. Linux Complete – Grant Tatlor
5. Integrating Linux & Windows – Mike
6. Installing Red Hat Linux – William Van Hagen
7. Red Hat Linux System Administration Unleashed – Thomas

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Paper No : 903 **L: 4, T:0, P:0 Hrs**
Paper Title : Elective- I (Advance Computer Networking)

1. TCP/IP Protocol Suit

TCP/IP Architecture, TCP Protocol, UDP Protocol, The IP Protocol ,
ARP, RARP, ICMP, IGMP

2. Applications

Client – Server Model – Concepts, BOOTSTRAP (BOOTP), DHCP, Domain
Name Systems (DNS), Network virtual Terminal (TELNET), File
Transfer Protocol (FTP), Trivial FTP, Mail Transfer Protocols SMTP, MIME,
POP, IMAP

3 Interposes Communication

File and record locking, Pipes, FIFO's, Stream and Messages, Message Queues
Semaphores

4. Sockets

Socket System Cells, Reserved Parts, Stream and Stream Pipes, Asynchronous I/O,
I/O Multiplexing

5. Remote Procedure Cells

Reference:

1. A.S. Tanenbaum – Computer Networks – PHI New Delhi 1997
2. Bahrouz Forouzon – TCP/IP Protocol Suit , Tata Mcgraw-Hill Edition 1998
3. A.Stevens, “TCP/IP Illustrated”, Vol. 1-3, Addison Wesley, 1998
4. R.Stevens, “Unix networking Programming”, PHI 1998
5. J.Martin, “TCP/IP Networking – Architecture, Administration and Programming”, Pentic Hall , 1994
6. D.E. Comer, ”Internetworking with TCP/IP, Vol. 1, Principles, Protocols and Architecture, PHI 2000
7. W. Stallings – Data and Computer Communications, 3rd Edition, Macmillan Pub. Co., New York 1991
8. Matthew MacDonald – Microsoft .NET DISTRIBUTED APPLICATIONS – Tata Mcgraw-Hill Edition 2003

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Paper No : 903 **L: 4, T:0, P:0 Hrs**
Paper Title : Elective -I (Information Technology and Cyber Law)

1. Information Technology And Legal Response

Introduction, Objective, Cyberspace and Our Lives, The Nature of the Net
Features of the Net, Geographical Indeterminacy, Information technological
revolution and societal impact

2. Sources of the Law

Introduction, Objective, Sources of law, The Significance of Legislation,
The common law or uncodified law, Precedent as a Source of law
Branches of law

3. The Judicial System

Introduction, Objective, Institutions of the Judicial System, Courts
Tribunals, Procedure in Civil Cases, Procedure in Criminal Cases
Officers of Court

4. Structure of Government

Introduction, Objective, Framing of the Constitution, Government Functions
Processing of Bills, Legislation: Subject to judicial review, Public interest litigation

5. Information Technology and the Attempted Legal Response

Introduction, Objective, Primary assumptions of a legal system, Sovereignty
Territorial Enforcement, Notion of Property, Real Relationships
Paper Based Transactions, Role of the Judiciary in the evolving legal framework

6. Cyber Crimes

Introduction, Objective, Cyber Crime – A perspective, The Problem: Current Forms
of Computer Crime, Infringements of Privacy, Economic offences, Computer
Hacking, Computer Espionage, Software Piracy and other forms of Product Piracy,
Computer Sabotage and Computer Extortion, Computer Fraud, Illegal and harmful
contents, Other offences, Attacks on Life, Organized Crime, Electronic Warfare,
Classification of Cyber Crimes in I.T. Act, 2000

7. Cyber Contracts

Introduction, Objective, Cyber Contract, Essentials of a contract, Intention to be
bound, Offer and Acceptance, Concept of offer, Offer by and to whom, Statements
which are not offers, Termination of offer, Quality of acceptance, Consideration,
Capacity of the parties, Consent, Unlawful agreements, Persons bound by contract,
Performance and frustration, Subsequent Events and Frustration, Remedies for Breach
of Contract, Damages, Specific performance, Injunctions

8. Cyber Privacy

Introduction, Objective, Cyber Privacy – A perspective, Policy approaches to privacy concerns, Market approach, Human rights approach, Contract approach, Platform for Privacy Preferences Project (P3P):

9. Cyber Intellectual Property Rights1

Introduction, Objective, Concept of Intellectual Property Rights, Role of Intellectual Property in Developing Countries, The Impact of Electronic Commerce on Intellectual Property, The Protection Of Copyright And Related Rights In The Digital Environment, Overview of the Issues, Technological protection measures, Future Work in the protection of Copyright and related rights, PATENTS, Patentable Subject Matter, Prior Art Effect, Enforcement of Rights, TRADEMARKS AND UNFAIR COMPETITION, Trademarks, Establishment and Maintenance of Trademark Rights, Infringement of Trademark Rights Through Use of a Sign on the Internet, Global Effect of Injunctions

Well-Known Marks, Unfair Competition, DOMAIN NAMES, Background

WIPO Internet Domain Name Process, Uniform Administrative Procedure Concerning Abusive Domain Name Registrations. , Exclusions for Famous and Well-known Marks, Outstanding Issues in Domain Name Process

10. Information Technology Act, 2000 (I.T. Act, 2000)

Introduction, Objective, The Information Technology Act, 2000: An overview, Transmission of electronic documents, Evidentiary presumptions of a secured electronic document, Certifying Authority (CA) , Controller of Certifying , Authorities. , Suspension of Certifying Authority, Digital Signature, Digital Signatures: Power of Central Government to make rules, Digital Signature Certificate, Revocation of Digital Signature Certificate

11. Penalties and adjudication

Introduction, Objective, Penalties and adjudication: A brief overview, Penalty for damage to computer, computer system, etc, Penalty for failure to furnish , information, return, etc. , Residuary penalty(Section 45) , Power to adjudicate, Cyber Regulations Appellate Tribunal, Composition of the Cyber Appellate , Tribunal, Right of Appeal to Cyber Regulations Appellate Tribunal, Procedures and powers of the Cyber Appellate Tribunal, Compounding of Contravention
Jurisdiction of Civil Courts, Appeal to High Court on order of Tribunal

12. Amendments to current legal provisions

Introduction, Objective, Amendments to the Indian Penal Code, Amendments to the Indian Evidence Act , 1872, Amendment to the Bankers Books Evidence Act, 189, Amendment to the Reserve Bank of India Act, 1934

References:

1. Cyber Laws. Krishna Kumar Dominant Publishers
Project preferably in Industry