

SITX1001	INTERNET PROGRAMMING	L	T	P	Credits	Total Marks
		3	0	0	3	100

UNIT I MARKUP LANGUAGE

10 hrs.

HTML - Structure of HTML documents - HTML elements - Mark up Tags for inserting URL, images, Tables, Multimedia components - Frames- Form and its objects - image maps - CSS. Dynamic HTML – introduction – cascading style sheets – object model and collections – event model – filters and transition – data binding – data control – ActiveX control – handling of multimedia data

UNIT II JAVA SCRIPT

10 hrs.

Advantages, Data Types, Variables, Operators, Control Statements, Functions, Objects and Arrays, Windows and Frames, Forms.

UNIT III EXTENSIBLE MARKUP LANGUAGE

10 hrs.

XML structure – elements, well formed XML, XML Namespaces - working with DTD- Adding DTDs to documents, defining DTD entities, defining Parameter entities - Working with attributes – Defining attributes, defining multiple attributes, using predefined attributes.

UNIT IV XML TRANSFORMATION LANGUAGES

10 hrs.

CSS basics - adding CSS to document, CSS selections, Controlling fonts - Need of XSL, XSL basics, XSL transformations, Introduction to Schemas- Defining simple elements and types. XML query, collecting and working data with CGI.

UNIT V ACTIVE SERVER PAGE

10 hrs.

Introduction to ASP – Working of ASP – Objects – File System Objects – Session tracking and cookies – Server side Active-X Components like Adrotator, Content linking and Rotator – Accessing database.

REFERENCE BOOKS:

1. Thomas A. Powell, "The Complete Reference HTML", Tata McGraw Hill,rd3 Edition
2. Thomas A. Powell and Fritz Schneider,"Java Script Complete Reference"ⁿ,^d2Edition, Tata McGraw Hill ",
3. Heather Williamson, " XML Complete Reference", Tata Mcgraw Hill,2001
4. Stephen Walther, Kevin Hoffman, Nate Dudek, "ASP . Net 4 unleashed", Pearson Education, 2010
5. Deitel & Deitel, Goldberg, "Internet and world wide web – How to Program", Pearson Education Asia, 2001.

UNIVERSITY EXAM QUESTION PAPER PATTERN

Max Marks : 80

Exam Duration : 3 hrs.

Part A: 2 Questions from each unit, each carrying 2 marks

20 marks

Part B: 2 Questions from each unit with internal choice, each carrying 12 marks

60 marks

Out of 80 marks, maximum of 30% may be asked in programming

SIT1302	INTERNET PROGRAMMING	L	T	P	Credits	Total Marks
		3	0	0	3	100

UNIT 1 MARKUP LANGUAGE

9 Hrs.

Introduction to HTML - Structure of HTML, HTML elements - Mark up tags for inserting URL, Images, Tables, Frames - Form and its controls - Image maps - Client and Server Side – CSS – Inline – Internal and External - Multimedia components - Audio and Video - Dynamic HTML.

UNIT 2 JAVA SCRIPT

8 Hrs.

Introduction to JavaScript, Advantages, Data Types – Variables – Operators - Control Statements – Functions - **Objects – Array – Strings – Math – Boolean – Global - Date, and Number** - Windows and Frames - Forms and **Validation**.

UNIT 3 XML TECHNOLOGIES

10 Hrs.

Introduction to XML, XML structure – Elements - Well-formed XML -, XML Namespaces - Working with DTD - Adding DTDs to documents - Defining DTD entities - Defining Parameter entities - Working with attributes - Defining attributes - Defining multiple attributes - Using predefined attributes - CSS basics - Adding CSS to document - Need of XSL - XSL basics - XSL transformations - Introduction to Schemas - Defining simple elements and types - XML query.

UNIT 4 PHP

9 Hrs.

Introduction to PHP – Features - PHP Scripts - Data types – Variables – Operators - Controlling program flow - Working with arrays - Functions and classes - Working with files - Reading with Local and Remote files - Working with Database – Basics - Creating and populating database.

UNIT 5 ASP.NET

9 Hrs.

Introducing ASP.NET - ASP.NET namespaces - Creating and deploying ASP.NET applications - Web forms - Basic Web Controls - Working with events - Rich Web Controls : AdRotator Control - Calendar Control - Custom web Controls - Validation controls - Localising ASP.NET applications.

Max. 45 Hours.

COURSE OUTCOMES

On completion of the course, student will be able to:

- CO1 : Implement interactive web page(s) using HTML, CSS and DHTML.
- CO2 : Design and develop interactive Server Side executable web applications using Java Script.
- CO3 : Demonstrate well-formed XML, XSLT, DTD and XSL.
- CO4 : Build Dynamic web site using server side PHP Programming and Database connectivity.
- CO5 : Create and use ASP.NET applications.
- CO6 : Demonstrate web applications with Rich Web Controls.

TEXT / REFERENCE BOOKS

1. Thomas A. Powell, "The Complete Reference HTML", Tata McGraw Hill, 3rd Edition.
2. Thomas A. Powell and Fritz Schneider, "Java Script Complete Reference", 2nd Edition, Tata McGraw Hill
3. Heather Williamson, " XML Complete Reference", Tata Mcgraw Hill,2001.
4. Jim Converse & Joyce Park, PHP & MySQL Bible, Wiley.

END SEMESTER EXAM QUESTION PAPER PATTERN

Max. Marks : 100

Exam Duration: 3 Hrs.

PART A: 2 Questions from each unit, each carrying 2 marks

20 Marks

PARTB: 2 Questions from each unit with internal choice, each carrying 16 marks

80 Marks

SCSX1026	CRYPTOGRAPHY & NETWORK SECURITY (Common to CSE & IT)	L	T	P	Credits	Total Marks
		3	0	0	3	100

UNIT I INTRODUCTION

10 hrs.

Services – Mechanisms and attacks – The OSI security architecture – A model for network security – Classical encryption technique – Symmetric cipher model – Substitution technique – Rotar machines – Steganography.

UNIT II BLOCK CIPHERS AND THE DATA ENCRYPTION STANDARD (DES)

10 hrs.

Simplified DES – Block Cipher principles – The Data Encryption Standard – The strength of DES – Confidentiality using symmetric encryption – Placement of encryption – Traffic confidentiality – Key distribution – Random number generation.

UNIT III PUBLIC KEY ENCRYPTION AND KEY MANAGEMENT

10 hrs.

Introduction to number theory – Public key cryptography and RSA – Key management – Diffie-hellman key exchange.

UNIT IV AUTHENTICATION AND HASH FUNCTIONS

10 hrs.

Authentication requirements – Authentication functions – Message authentication codes – Hash functions – Security of hash functions and MAC'S – MD5 (Message Digest Algorithm) – HMAC.

UNIT V NETWORK SECURITY

10 hrs.

Network security and system Security – Electronic mail security – IP security – Web security – Intruders – Malicious S/Ws – Firewalls.

REFERENCE BOOKS:

1. William Stallings, "Cryptography and Network Security", 2nd Edition, Prentice Hall of India, New Delhi, 1999.
2. Bruce Schneier, "Applied Cryptography", 2nd Edition, John Wiley and Sons, 1996.
3. Douglas R. Stinson, "Cryptography- Theory and Practice", CRC Press, 1995.

UNIVERSITY EXAM QUESTION PAPER PATTERN

Max Marks : 80

Exam Duration : 3 hrs.

Part A: 2 Questions from each unit, each carrying 2 marks

20 marks

Part B: 2 Questions from each unit with internal choice, each carrying 12 marks

60 marks

SCS1316	NETWORK SECURITY	L	T	P	Credits	Total Marks
		3	1	0	4	100

Unit 1 Network Security and Number theory Basics

Network security- Examples of security violations- Computer security concepts-confidentiality- Integrity-Availability-Accountability, Challenges of computer security- Hacking-Vulnerability-threats-attacks-passive attacks-types-Active attacks-types-Denial of service attacks-Model for network security. Modular arithmetic- Addition-Inverse-divisibility- prime numbers-Euler's theorem-Fermat's theorem

Unit -2 Cryptography Basics

Terminologies-Cryptography-Classification-based on operation, number of keys used, Processing- Crypt analysis –Types-Classical Encryption- Stream cipher, Substitution Cipher, Ceaser Cipher, Brute Force attack, Vignere Cipher-One time pad, Transposition Cipher -Simple row column Transfer, Play Fair Cipher, 2X2 Hill cipher- Rail fence Cipher-Block Cipher-Modes of operation,-DES- -AES-RSA algorithm

Unit -3 Security Functions and Data Security

Public Key Crypto system- Diffie-Hellmann Key Exchange-Key management Techniques-Hash Functions- Requirements-Hash Algorithm-MD5,SHA_1-Message Authentication Code (MAC)- HMAC- Digital Signature- User Authentication-Kerbroes-X.509 Certificates,X.509 Formats, Public Key Infrastructure- PKIX Architecture-Model- Management Functions

Unit- 4 Internet Security

Email Security-PGP-S/MIME- Secured Electronic Transaction-IP Security Overview- IPSec Documents-IPSec Services, IPSec Architecture, IP Traffic Processing-Encapsulating Security Payload-Internet key Exchange-Firewalls-Stateful Packet Inspection-Application Gateways/Proxies-Hybrid Systems

Unit -5 Computer System Security

Malicious Software- Types-Backdoor-Worms-Logic bomb-Trojan Horses-Viruses-Classifications- Virus Kits-Email Viruses-Antivirus Approach-Distributed Denial of Service Attacks-Counter Measures-Intrusion Detection System (IDS),Network Based IDS-Host based IDS- Steps involved in deploying IDS

Text/ Reference Books:

William Stallings," Network System Essentials "-4th Edition
Atul Khahate, "Cryptography and network security",3rd Edition
Kuldeep Singh Kohar", Network Security", revised reprint 2011.

Max. 60 Hours

COURSE OUTCOMES

On completion of the course, student will be able to

- CO1 : Comprehend type of attacks and network security violations.
- CO2 : Apply ciphering techniques to secure data transfer
- CO3 : Analyse authentication techniques for different network scenarios..
- CO4 : Design Internet Protocol Security architecture to identify the vulnerability of the Internet systems..
- CO5 : Develop an intrusion detection system to find the attacks in networks.
- CO6 : Conduct a case study on recent threats and attacks.

TEXT / REFERENCE BOOKS

1. William Stallings, Cryptography and Network Security, 6th Edition, Pearson Education, March 2013.
2. Behrouz A. Forouzan, Debdeep Mukhopadhyay, Cryptography and Network Security, 2nd edition, McGraw Hill, 2012 .
3. William Stallings, "Network Security Essentials : Applications and Standards", Fourth Edition, Pearson Education.

END SEMESTER EXAM QUESTION PAPER PATTERN

Max. Marks : 100

PART A : 10 questions of 2 marks each- No choice

PART B : 2 questions from each unit of internal choice, each carrying 16 marks

Exam Duration : 3 Hrs.

20 Marks

80 Marks

SITX4002	INTERNET PROGRAMMING LAB	L	T	P	Credits	Total Marks
		0	0	4	2	100

List of Experiments

1. Develop static pages (using Only HTML) of an online Book store. The website should consist the following pages.
 - Home page
 - Registration and user Login
 - User Profile Page
 - Books catalog
 - Shopping Cart
 - Payment By credit card
 - Order Conformation
2. Mapping image on client & server side
3. Add a Cascading Style sheet for designing the web page.
4. Validate the Registration, user login, user profile and payment by credit card pages using JavaScript.
5. Create and save an XML document at the server, which contains 10 users information. Write a program, which takes User Id as an input and returns the user details by taking the user information from the XML document.
6. Extracting contents of the XML document using DOM parser
7. Using ActiveX Components in server side scripting.
8. Create dynamic pages with database and server side scripting for quiz application.

SIT4301	INTERNET PROGRAMMING LAB	L	T	P	Credits	Total Marks
		0	0	4	2	100

SUGGESTED LIST OF EXPERIMENTS

1. Develop a static page using any 10 basic HTML elements.[Tags – Heading, Table, Marquee, Image, Style elements, etc.,]
2. Develop static pages (using Only HTML) of an online Book store. The website should contain the following pages.
 - a. Home page
 - b. Registration and user Login
 - c. User Profile Page
 - d. Books catalog
 - e. Shopping Cart
 - f. Payment By credit card
 - g. Order Conformation
3. Mapping image on client & server side
4. Add a Cascading Style sheet (All types) for designing the web page.
5. Validate the Registration, user login, user profile and payment by credit card pages using JavaScript.
6. Create and save an XML document at the server, which contains users information. Write a program, which takes User Id as an input and returns the user details by taking the user information from the XML document.
7. Extracting contents of the XML document using CSS,XSLT,DOM parser
8. Simple applications using XQuery
9. Using ActiveX Components in server side scripting.
10. Create dynamic pages with database and server side scripting for any application
11. Programs using AJAX
12. Programs using Maps
13. Creation of Distributed Application using RMI
14. Usage of Cookie
15. Session Tracking using Servlets/JSP
16. Accessing Database in a Servlet/JSP
17. Database to Swing to Servlet/JSP communication

COURSE OUTCOMES :

- CO1 : To get familiar with basics of the Internet Programming.
- CO2 :. To acquire knowledge and skills for creation of web site considering both client and server side programming
- CO3 : To gain ability to develop responsive web applications
- CO4 :. To explore different web extensions and web services standards
- CO5 :. To learn characteristics of distributed applications
- CO6 : To be familiarized with AJAX and JSP