DURGAPUR INSTITUTE OF ADVANCED TECHNOLOGY AND MANAGEMENT
(Affiliated to MAKAUT and recognized by AICTE, New Delhi)

Subject Code: **IT701** Subject Name: **Internet technology** Credits: **3L**

Semester: **7th** Year: **4th** Session: **2018 - 2019**

Branch Name: **Information Technology** Subject Teacher: **Sk Salim**
Assistant Professor, IT Dept.

SYLLABUS

Module I-6L
Introduction: Overview, Network of Networks, Intranet, Extranet and Internet. **World Wide Web** : Domain and Sub domain, Address Resolution, DNS, Telnet, FTP, HTTP. Review of TCP/IP : Features, Segment, Three-Way Handshaking, Flow Control, Error Control, Congestion control, IP Datagram, IPv4 and IPv6. **IP Subnetting and addressing** : Classful and Classless Addressing, Subnetting. NAT, IP masquerading, IP tables. **Internet Routing Protocol**: Routing -Intra and Inter Domain Routing, Unicast and Multicast Routing, Broadcast. **Electronic Mail**:POP3, SMTP.

Module II-9L
HTML: Introduction, Editors, Elements, Attributes, Heading, Paragraph. Formatting, Link, Head, Table, List, Block, Layout, CSS. Form, Iframe, Colors, Colorname, Colorvalue. **Image Maps**: map, area, attributes of image area.
Extensible Markup Language (XML) : Introduction, Tree, Syntax, Elements, Attributes, Validation, Viewing. XHTML in brief.
CGI Scripts : Introduction, Environment Variable, GET and POST Methods.

Module III-10L
PERL : Introduction, Variable, Condition, Loop, Array, Implementing data structure, Hash, String, Regular Expression, File handling, I/O handling. **JavaScript** : Basics, Statements, comments, variable, comparison, condition, switch, loop, break. Object – string, array, Boolean, reg-ex. Function, Errors, Validation. **Cookies**: Definition of cookies, Create and Store a cookie with example. **Java Applets** : Container Class, Components, Applet Life Cycle, Update method; Parameter passing applet, Applications.

Module IV-4L
Client-Server programming In Java : Java Socket, Java RMI. **Threats** : Malicious code-viruses, Trojan horses, worms; eavesdropping, spoofing, modification, denial of service attacks. **Network security techniques**: Password and Authentication; VPN, IP Security, security in electronic transaction, Secure Socket Layer (SSL), Secure Shell (SSH). **Firewall**: Introduction, Packet filtering, Stateful, Application layer, Proxy.

Module v-5L
Internet Telephony: Introduction, VoIP. **Multimedia Applications** :

Text Books / References:

1. Web Technology: A Developer's Perspective, N.P. Gopalan and J. Akilandeswari, PHI Learning, Delhi, 2013. (Chapters 1-5,7,8,9).
2. Internetworking Technologies, An Engineering Perspective, Rahul Banerjee, PHI Learning, Delhi, 2011. (Chapters 5,6,12)

Course Objectives:

1. To familiarize with internet technology and protocol
2. Master in developing web based application
3. To familiarize with the security mechanism of web based application.

Course Outcomes:

1) On completion of this course student will know how internet works.
2) Student can develop the web based application, its static and as well as its interactive part also.
3) Student can develop client side code as well as server side programming also.
4) Student can have good knowledge about the security features that have to notice during the application development and as well as in the time of maintenance work.
5) And also student have good knowledge of multimedia that make web based application more attractive and productive.

LESSON PLAN

Day	Reference of the syllabus	Topic Covered as per syllabus	Date
1	Module-1 Introduction	Concept of network, uses and different type of network- Intranet, Extranet and Internet , Differences and uses.	
2	World Wide Web	Concept of Domain, Internet Address, Concept of protocol, Brief Explanation of function of protocol like- DNS, Telnet, FTP, HTTP.	
3	TCP / IP	Introduction, Data Communication concept, Three way Hanshaking method, explanation of mechanism of Flow Control, Error Control, Congestion Control in Data Communication	
4	IP Subnetting and Addressing	Introduction of IP Address, IP addressing scheme, Classful and Classless Addressing Scheme, IP Datagram, IPv4 and IPv6	
5	IP Subnetting and Addressing	Subnetting , Its uses and advantage, Introduction to NAT , IP masquerading. IP tables.	
6	Internet Routing Protocol	Introduction to Routing- Intra and Inter Domain Routing, Routing Table, Unicast and Multicast routing and Broadcast. Brief description of routing software and manual routing.	
7	E-Mail	E-mail and its protocol- POP3, SMTP, differences and advantage.	
8	Module – II HTML	Inroduction, Editors, Elements, Attributes, Heading, Paragraph and function and uses of different formatting tags using example.	
9	HTML	Tags explain using example- Link, Head, Table. Explain Block and Lauout.	
10	HTML	Introduction CSS, Form and its different element with example.	
11	Image Maps	Description using example of img, map and area tag, description of attribute of image area.	
12	XML	Introduction, how to use with example, XML Tree example.	
13	XML	Explain different Elements of XML and its Attributes with example	
14	XML	Few examples of XML codes.	
15	XML	XML Validation and Viewing , XHTML	
16	CGI Scripts	Introduction , Environment Variable , syntax of GET and POST methods and its uses	
17	Module – III PERL	Introduction, Installation and system ready, First programme and how to get output.	
18	PERL	Description and uses with example variable, Condition, Loop.	
19	PERL	Implementation of Array, Hash, String.	

20	PERL	File Handling, I/O handling.	
21	JavaScript	Basics, Statements, Comments, Variable, comparison, Condition.	
22	JavaScript	Switch, loop, break	
23	JavaScript	String, Array, Boolean,	
24	javaScript	Function, Errors, Validation	
25	Cookies	Definition, Create and store with example	
26	Applet	Components , Life Cycle, First code with example, Update method,	
27	Applet	Parameter passing Applet, Application	
28	Module – IV Client Server Programming	Java Socket Programming.	
29	Client Server Programming	Java RMI – Introduction, Understanding stub and skeleton, Java RMI example.	
30	Threats	Viruses, Trojan horses, worms, eavesdropping, spoofing, modification, denial of service attacks.	
31	Network Security	Password and authentication, VPN, IP Security	
32	Network Security	Security in Electronic transaction, SSL, SSH	
33	Module- V Internet Telephony	Introduction and VoIP	
34	Multimedia Application	Multimedia over IP, RSVP, RTP , RTCP and RTSP	
35	Multimedia Application	Streaming media, Codec and Plugins, IPTV	
36	Search Engine	Definition, meta Data, Web Crawler	
37	Search Engine	Indexing, Page rank, SEO	