

## CSH 502: Internet Technologies

**Teaching Scheme**  
Lectures: 3 hrs/Week  
Tutorials: 1 hr/Week  
  
Credits: 4

**Examination Scheme**  
Class Test -12Marks  
Teachers Assessment - 6Marks  
Attendance – 12 Marks  
End Semester Exam – 70 marks

**Prerequisite: -**

1. Familiarity with the cryptography and network security.
2. Knowledge of MIS and networking.

**Course Objectives:**

1. The Information Technology (IT) program will educate students to analyze, design, integrate, and manage information systems using information technology.
2. Developed a product or process by applying knowledge of programming, web, database, human computer interaction, networking and security tools.
3. Made decisions related to work that demonstrate understanding of the importance of being an ethical computing professional
4. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.

**Detailed Syllabus**

**UNIT I (10 Hours)**

**The Internet and WWW:** Evolution of the Internet, Intranet, Extranet, Application areas: E-commerce, Education, Entertainment, ISPs, Growth of the World Wide Web , protocols governing the web, Internet accessing tools, Access methods: dialup, ISDN, ADSL/2+, cable, LAN, WIFI, Mobile & Satellite, Proxy servers. Mechanism of accessing internet on different devices, Search engines and their Searching techniques, Article on searching techniques used by various search engines: GOOGLE, YAHOO, BING.

**UNIT II (10 Hours)**

**Process, Standards And Protocols:** TCP/IP model ,TCP/IP fixed and dynamic IP addressing, IPv4 and IPv6, DNS and URLs. Servers and gateways. Remote login: telnet, HTTP and HTTPS, Internet governing bodies: Role of W3C, ISO .

**UNIT III (10 Hours)**

**Security And Performance:** Security policies/ Identification/ Authentication /Access control. Threats and attack methods such as Viruses, Spam, "phishing", Firewalls.

**Performance:** speed, reliability, downtime, and bandwidth.

**Transmission Security:** Encryption Techniques, Symmetric Encryption- Keys and Data Encryption Standards, triple encryption, Asymmetric encryption- Secret key encryption, public and private pair key encryption, Virtual Private Network.

**UNIT IV (10 Hours)**

**Website Development:** Web development strategies, Web applications. Client-Server model, applications running over the internet and their types ,HTML Formatting Tags, Images, Links, Lists, Tables, Frames, Forms, Comments in HTML, DIV and SPAN, CSS. Introduction to web development IDE: Dreamweaver -its working.

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Department of Computer Applications  
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Invertis University, Bareilly (UP)  
Bachelor of Science (Honors) in Computer Science

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Page 4

**UNIT V (6 Hours)**

**Client-side scripting:** DHTML, JavaScript Introduction, Statements, Loops, Arrays, Functions, Objects in JavaScript, Events and Event Handling, Validation, DOM model, Introduction to AJAX.

**Server Side Programming:** Introduction to server side scripting, Introduction to Active Server Pages (ASP) and Java Server Pages (JSP)

**UNIT VI (10 Hours)**

**PHP (Hypertext Preprocessor):** Introduction, syntax, variables, strings, operators, if-else, loop, switch, array, function, form, GET and POST Methods, Cookies, Sessions.

**Database action:** Connectivity using Register, Signup, Login facilities.

**Text and Reference Books**

1. Pankaj Sharma, Introduction to Web Technology, S.K. Kataria and Sons, 3<sup>rd</sup> Edition
2. Web Technology and Design, Xavier, C, New Age International, 1st Edition 2010
3. HTML, DHTML, Java Script, Perl & CGI, Ivan Bayross, BPB Publication, 2008
4. Internet and Web Design, Ramesh Bangia, New Age International, 2nd Edition, 2007
5. Data Communication and Networking, Behrouz A Frouzan, TMH, 4th Edition 2004.
6. Ullman, "PHP for the Web: Visual QuickStart Guide", Pearson Education