**Shyama Prasad Mukherji College**

**Teaching Plan (Aug-**

**Course and Year: GE 3, IInd Year**

**Semester: IIIrd**

**Taught individually or shared: Individually**

**Paper: Computer Networks and HTML**

**Faculty: Geeta Arneja**

**No. of Classes** (per week)**: 4(Theory ) and 4( Practicals )**

**Program Objective**

Generic elective of Computer Science and Applications are designed to impart flavour of computer science and computer applications to the students who do not have an opportunity to study these subjects either major or minor subjects in their curriculum. The courses are designed for students studying BA/BSc (Hons) programme, and those studying BA/BCom. (Non-Hons) programme.

**Course Objective**

This course covers the fundamental concepts of computer networks, standard models of computer networks having layered architecture, data communication, network topologies, web technologies and internet applications.

**Course Learning Outcomes**

On successful completion of this course, a student will be able to:

1. State the use of computer networks and different network topologies.

2. Distinguish between LAN, MAN, WAN, and between Intranet, Extranet and Internet.

3. Compare OSI and TCP/IP architectures

4. Enumerate different transmission media and describe the use of each of them.

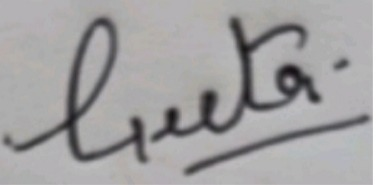
5. Design web pages using HTML

|  |
| --- |
| **TEACHING PLAN** |
| **Name of the Unit: Computer Networks** |
| **Readings prescribed in the syllabus for each unit**  Forouzan, B. A.(2013). *Data Communication and Networking* (5th Edition). TMH.  <https://www.omnisecu.com/basic-networking/internet-intranet-and-extranet.php>  **Readings, e- references to be given to students but not prescribed in syllabus (if any) for each unit**  [**https://www.geeksforgeeks.org/performance-of-a-network/**](https://www.geeksforgeeks.org/performance-of-a-network/) |
| **Name of the Unit: Network Models**  **Readings prescribed in the syllabus for each unit**  Forouzan, B. A.(2013). *Data Communication and Networking* (5th Edition). TMH. |
| **Name of the Unit: Transmission Media**  **Readings prescribed in the syllabus for each unit**  Forouzan, B. A.(2013). *Data Communication and Networking* (5th Edition). TMH. |
| **Name of the Unit: LAN Topologies**  **Readings prescribed in the syllabus for each unit**  Forouzan, B. A.(2013). *Data Communication and Networking* (5th Edition). TMH.  <https://www.omnisecu.com/basic-networking/tree-topology.php> |
| **Name of the Unit: Network Devices**  **Readings prescribed in the syllabus for each unit**  Forouzan, B. A.(2013). *Data Communication and Networking* (5th Edition). TMH. |
| **Name of the Unit: Internet Applications**  **Readings prescribed in the syllabus for each unit**  Forouzan, B. A.(2013). *Data Communication and Networking* (5th Edition). TMH. |
| **Name of the Unit: Internet Terms**  **Readings prescribed in the syllabus for each unit**  Minnick, J. (2015). Web Design with HTML5 and CSS3. 8th edition. Cengage Learning.  **Readings, e- references to be given to students but not prescribed in syllabus (if any) for each unit**  [**https://www.digitaldreams.com.au/internet-glossary**](https://www.digitaldreams.com.au/internet-glossary)  [**https://www.studypage.in/computers/internet-terminology**](https://www.studypage.in/computers/internet-terminology)  [**https://selectra.in/internet-speedtest/common-internet-terminologies**](https://selectra.in/internet-speedtest/common-internet-terminologies) |
| **Name of the Unit: Introduction to Web Design**  **Readings prescribed in the syllabus for each unit**  Minnick, J. (2015). Web Design with HTML5 and CSS3. 8th edition. Cengage Learning. |
| **Name of the Unit: Hosting Options And Domain Name Registration**  **Readings prescribed in the syllabus for each unit**  Forouzan, B. A.(2013). *Data Communication and Networking* (5th Edition). TMH. |
| **No of classes required to complete the unit (approx.):**   1. **Unit I: 6 hours** 2. **Uniti II: 8 hours** 3. **Uniti III: 4 hours** 4. **Uniti IV: 4 hours** 5. **Uniti V: 6 hours** 6. **Uniti VI: 6 hours** 7. **Uniti VII: 8 hours** 8. **Uniti VIII: 16 hours** 9. **Uniti IX: 2 hours** |
| **Sub topics to be covered and their order along with the respective time frames (if any)**  **Attached** |
| **Methodology of Teaching:**  **Lecture, Test, Viva Voice, Assignment, Practical demonstration, Quizzes** |
| **ASSESSMENT**  **Tentative date of assessments/ assignments (time frame)**  **Class Test1: IInd week of October**  **Class Test 2: IInd week of November**  **Assignment : IVth week of September**  **Criteria of Assessment: 10 marks for assignment + 15 marks for test (best of two) = 25** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Lecture No** | **Topics/Sub-topics to be covered** | **Methodology** | **Ref./Text Book** |
| L1 | Overview of Computer Networks: Introduction to computer networks | L | 1 |
| L2 | Data communication components of data communication | L | 1 |
| L3 | Switching Techniques. | L | 1 |
| L4 | Data transmission mode : one way communication | L | 1 |
| L5 | Data transmission mode : two way communication | L | 1 |
| L6 | Summarization and Query Resolution | Interactive session |  |
| L7 | Network : LAN, MAN, WAN | L | 1 |
| L8 | Network : Wireless LAN | L | 1 |
| L9 | Internet, Intranet, Extranet | L | 1,  Omnisecu.com |
| L10 | Data Communication Measurement | L | Omnisecu.com |
| L11 | Summarization and Query Resolution | Interactive session |  |
| L12 | Network Models: Client/ server network | L | 1 |
| L13 | Introduction to the concept of network models. with | L | 1 |
| L14 | ISO-OSI reference model | L | 1 |
| L15 | ISO–OSI layers functionalities. | L | 1 |
| L16 | Summarization and Query Resolution | Interactive session |  |
| L17 | TCP/IP Model reference model | L | 1 |
| L18 | TCP/IP Model reference model:  layers and functionalities. | L | 1 |
| L19 | Network Models: Comparison of ISO-OSI and TCP/IP reference model. | L | 1 |
| L20 | Summarization and Query Resolution | Interactive session |  |
| L21 | Guided Media: Twisted pair, Coaxial cable | L | 1 |
| L22 | Guided Media: Optical fiber | L | 1 |
| L23 | Introduction to Unguided Media | L | 1 |
| L24 | Unguided media: Microwave, Satellite transmission | L | 1 |
| L25 | Unguided media: Radio frequency propagation | L | 1 |
| L26 | Summarization and Query Resolution | Interactive session |  |
| L27 | Topology : Ring, bus, star, Tree topology | L | 1, Omnisecu.com |
| L28 | Network Devices : NIC, repeaters | L | 1 |
| L29 | Network Devices : hub, bridge, Switch, | L | 1 |
| L30 | Network Devices : gateway and router. | L | 1 |
| L31 | Addressing: IPv4, IPv6. | L | 1 |
| L32 | Summarization and Query Resolution | Interactive session |  |
| L33 | Web technology : Web page, Home page Website, Internet Browsers | L | 1 |
| L34 | Web technology :URL, Hypertext | L | 1 |
| L35 | Web technology : ISP, Web Server | L | 1 |
| L36 | Summarization and Query Resolution | Interactive session |  |
| L37 | Internet applications :World wide web | L | 2 |
| L38 | Internet applications :Search engines | L | 2 |
| L39 | Internet applications : Telnet | L | 2 |
| L40 | Internet applications : FTP, E-mail | L | 2 |
| L41 | Internet applications :Video Conferencing and Social Networks | L | 2 |
| L42 | Internet Terms I | L | Online Resources |
| L43 | Internet Terms II | L | Online Resources |
| L44 | Summarization and Query Resolution | Interactive session |  |
| L45 | Introduction to hypertext markup language (html) | L + P | 2 |
| L46 | Creating web pages | L + P | 2 |
| L47 | HTML : Lists | L + P | 2 |
| L48 | HTML :Hyperlinks | L + P | 2 |
| L49 | HTML :Tables | L + P | 2 |
| L50 | HTML :Forms | L + P | 2 |
| L51 | Summarization and Query Resolution | Interactive session |  |
| L52 | HTML :Inserting Images | L + P | 2 |
| L53 | HTML :Frames | L + P | 2 |
| L54 | Customized Features: Cascading style sheet (CSS) for text formatting and other manipulations | L + P | 2 |
| L55 | Customized Features: Cascading style sheet (CSS) for text formatting and other manipulations | L + P | 2 |
| L56 | Summarization and Query Resolution | Interactive session |  |
| L57 | HTML: Hosting options | L + P | 2 |
| L58 | HTML: domain name registration | L + P | 2 |
| L59 | Web site Creation | L + P | 2 |
| L60 | Summarization and Query Resolution | Interactive session |  |

**References**

1. Forouzan, B. A.(2013). *Data Communication and Networking* (5th Edition). TMH.
2. Minnick, J. (2015). *Web Design with HTML5 and CSS3.* 8th edition. Cengage Learning.



**Geeta Arneja**