**Shyama Prasad Mukherji College For Women**

**Teaching Plan (Aug – Nov 2022)**

**Course and Year:** BA(Program) Computer Application II Year

**Semester:** III Sem

**Taught individually or shared:** Individually

**Paper:** Computer Networks and HTML

**Faculty:** Lavkush Gupta

**No. of Classes** (per week)**:** 4 Theory, 4 Practical

**Program Objective :**

The curriculum of Discipline Course in Computer Applications is designed to introduce computational methods to BA program students. The course promotes computer literacy and programming skills so that the students can make effective use of computer technology in their courses of study. The program also builds some basic skills for entry level jobs in information technology.

**Course Objective :**

This course provides an overview of the fundamental concepts of computer networks, data communication, network topologies, network devices, network working models & tools, web technologies and internet applications.

| **Teaching Plan** |
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| **Name of the Unit(I): Overview of Computer Networks, Network topology, Network devices** |
| **Readings prescribed in the syllabus for each unit:**  Forouzan, Data communications and Networking 5th Edition, TMH. |
| **Name of the Unit (II): Network Reference Models** |
| **Readings prescribed in the syllabus for each unit:**  Forouzan, Data communications and Networking 5th Edition, TMH. |
| **Name of the Unit (III): Data Communication Fundamentals** |
| **Readings prescribed in the syllabus for each unit:**  Forouzan, Data communications and Networking 5th Edition, TMH. |
| **Name of the Unit: HTML** |
| **Readings prescribed in the syllabus for each unit:**  Duckett, J(2011) HTML and CSS, Design and Build websites, First edition, Willey  **Readings, e- references to be given to students but not prescribed in syllabus (if any) for each unit**  [**https://www.w3schools.com/html/**](about:blank)  [**https://www.w3schools.com/css/**](about:blank) |
| **Name of the Unit: Internet Applications** |
| **Readings prescribed in the syllabus for each unit:**  Forouzan, Data communications and Networking 5th Edition, TMH. |
| **Name of the Unit: Network Tools** |
| **Readings prescribed in the syllabus for each unit:**  Forouzan, Data communications and Networking 5th Edition, TMH. |

| **No of classes required to complete the unit (approx.):**   1. **Unit I:** 17 Lectures (Completion date is 16 Sept 2022) 2. **Unit II:** 15 Lectures (Completion date is 8 Oct 2022) 3. **Unit III:** 10 Lectures (Expected Completion date is 25 Oct 2022) 4. **Unit IV:** 7 Lectures (Expected Completion date is 5 Nov 2022) 5. **Unit V:** 6 Lectures (Expected Completion date is 24 Nov 2022) 6. **Unit VI:** 5 Lectures (Expected Completion date is 30 Nov 2022) |
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| **Sub topics to be covered and their order along with the respective time frames (if any):**  Attached |
| **Methodology of Teaching:**  Lectures, Practical demonstration, Viva Voice, Assignment, Test, Problem Solving, Quizzes |
| **ASSESSMENT**  **Tentative date of assessments/ assignments (time frame):** 1st Test: 1st Week of October 2022  2nd Test: IIIrd Week of November 2022  1st Assignment: IInd Week of Sept 2022  2nd Assignment: IInd Week of Oct 2022  **Criteria of Assessment:** Written Tests, Assignments and Viva Voice |

| **Lecture No** | **Topics/Sub-topics to be covered** | **Methodology** | **Ref./Text Book** |
| --- | --- | --- | --- |
| L1 | **Unit I** : Introduction of Computer Network, Applications of network | L | T1 |
| L2 | Classification of Network -LAN,WAN | L | T1 |
| L3 | Classification of Network - MAN,WLAN | L | T1 |
| L4 | Intranet, Extranet,Internet | L | T1 |
| L5 | Network Topology – Mesh | L | T1 |
| L6 | Network Topology – Star | L | T1 |
| L7 | Revision and problem Discussions | L + Interactive Session | T1 |
| L8 | Network Topology – Bus | L | T1 |
| L9 | Network Topology – Tree | L | T1 |
| L10 | Network Topology – Ring | L | T1 |
| L11 | Network devices – Hubs | L | T1 |
| L12 | Network devices – Repeaters | L | T1 |
| L13 | Revision and Problem Discussions | Interactive Session |  |
| L14 | Network devices – Bridges, Switch | L | T1 |
| L15 | Network devices – Gateway, Routers | L | T1 |
| L16 | Network devices – Network Interface Card (NIC) | L | T1 |
| L17 | Revision and Problem Discussion | Interactive Session |  |
| L18 | **Unit II :** **Introduction to Network Reference Models** | L | T1 |
| L19 | TCP/IP reference model and its layers | L | T1 |
| L20 | Functions of each layer of TCP/IP model | L | T1 |
| L21 | ISO-OSI reference model | L | T1 |
| L22 | Revision and Problem Discussion | Interactive Session |  |
| L23 | TCP/IP related protocols – connection oriented and connectionless | L | T1 |
| L24 | TCP/IP vs OSI models | L | T1 |
| L25 | IP addressing and their types | L | T1 |
| L26 | IPv4 address notations and and their address spaces, classful addressing | T | T1 |
| L27 | IPv6 address and different notations and address space | T |  |
| L28 | IPv4 vs IPv6 | L | T1 |
| L29 | Three address types- unicast, anycast and multicast | L | T1 |
| L30 | Revision and Problem Discussion | Interactive Session |  |
| L31 | Class Test I |  | T1 |
| L32 | Test I Analysis | L | T1 |
| L33 | **Unit III :Data Communication Fundamentals**- Analog and digital data, Analog and digital signals, Periodic and non periodic signal | L | T1 |
| L34 | Transmission Impairment – Attenuation, Distortion and noise | L | T1 |
| L35 | Revision and Problem Discussion | Interactive Session | T1 |
| L36 | Transmission media- Guided and unguided | L | T1 |
| L37 | Guided – Twisted pair cable, coaxial cable | L | T1 |
| L38 | Guided – Fiber-optic cable | L | T1 |
| L39 | Unguided Media- Wireless, Radio waves and applications | L | T1 |
| L40 | Microwaves and applications, Satellite Networks and operations | L | T1 |
| L41 | Revision and Problem Discussion | Interactive Session | T1 |
| L42 | Revision and Numerical problems | L+ Interactive Session | T1 |
| L43 | **Unit IV:** **Understanding about HTML** :Text ,Tags and their examples | L+ Interactive Session | T2 |
| L44 | HTML: Lists ,Links ,images ,Forms and their related tags and attributes | L | T2 |
| L45 | HTML: Tables and their related tags and attributes | L | T2 |
| L46 | Revision and Problem Discussion on HTML | Interactive Session | T2 |
| L47 | Extra Markup , Iframes and examples | L+ Interactive Session | T2 |
| L48 | Introduction to CSS ,working, properties ,color, Text properties of CSS | L+ Interactive Session | T2 |
| L49 | Class Test II |  | T1,T2 |
| L50 | **Unit V** **Internet Technologies**: WWW ,Web server ,URL, HTTP | L | T1 |
| L51 | FTP ,Namespace ,DNS | L | T1 |
| L52 | Registrars, Mailing List, Group List | L | T1 |
| L53 | Revision and Problem Discussion | Interactive Session | T1 |
| L54 | Video conferencing and their example ,e-commerce ,m-commerce, e-wallet ,social networks ,search engines | L | [3] |
| L55 | Revision and Problem Discussion | Interactive Session | T1 |
| L56 | **Unit VI Network commands/tools**: ping ,tracert | L | [4] |
| L57 | Network commands/tools: arp , ipconfig | L | [4] |
| L58 | Network commands/tools: whois ,netstat | L | [4] |
| L59 | Revision and Problem Discussion | Interactive Session | T1,T2 |
| L60 | Revision and Problem Discussion | Interactive Session | T1,T2 |

**SUGGESTED READINGS:**

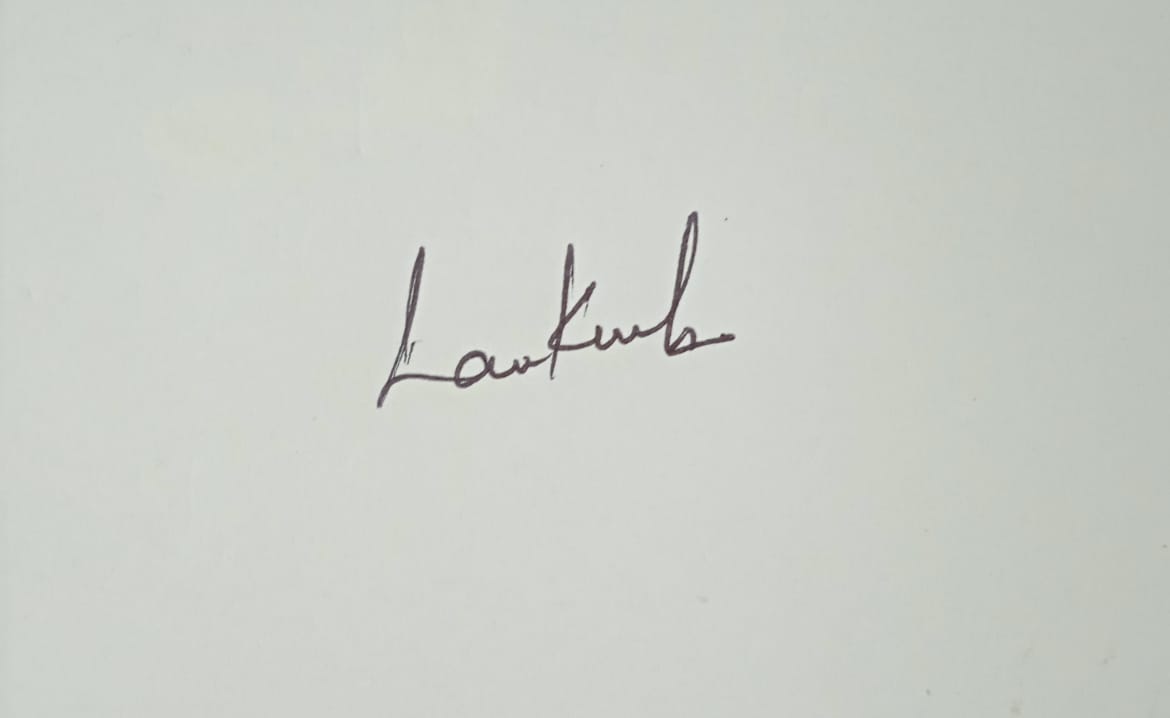
**References:**

**[T1]** Forouzan, Data communications and Networking 5th Edition, TMH.

**[T2]** Duckett, J(2011) HTML and CSS, Design and Build websites, First edition, Willey

**Readings, e- references to be given to students (Additional Resources) but not prescribed in syllabus (if any) for each unit**

1. **Tanenbaum, A. S. (2013). Computer Networks (5th Edition). Pearson Education India.**
2. [**https://www.tutorialspoint.com/data\_communication\_computer\_network/data\_communication\_computer\_network\_tutorial.pdf**](about:blank)
3. <https://www.geeksforgeeks.org/computer-network-tutorials/>
4. [**http://www.svecw.edu.in/Docs%5CCSECNLNotes2013.pdf**](about:blank)
5. [**http://www.tmv.edu.in/pdf/Distance\_education/BCA%20Books/BCA%20II%20SEM/BCA-221%20Network%20Fundamentals.pdf**](about:blank)

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**Lavkush Gupta**