**Bachelor of Technology (Computer Science and Engineering)**

**Semester-V**

L-0 T-0 P-2 C-1

**CSE190PR1 : Computer Network**

**Course Objectives**

* To describe the simple file transfer between two systems by opening socket connection to out server on one system and sending a file from one system to another.
* To get familiarized with the basic protocols of computer networks.
* To describe the technical issues related to the local Area Networks

**Course Outcomes (COs)**

1. Understand the different components in a Communication System and their respective roles.
2. Understand the fundamental concepts on data communication and the design of computer networks.
3. Analyze network devices and layer protocols to synthesize effective network designs
4. Understand TCP/UDP protocols, process-to-process delivery, congestion management, and Quality of Service principles.
5. Analyze the hierarchical structure and distribution of the domain name space within the Application Layer

**Articulation Matrix**

*(Program Articulation Matrix is formed by the strength of correlation of COs with POs and PSOs. The strength of correlation is indicated as 3 for substantial (high), 2 for moderate (medium) correlation, and 1 for slight (low) correlation)*

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **CO/PO/PSO** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** | **PSO1** | **PSO2** | **PSO3** |
| **CO1** | **3** | **2** | **1** | **-** | **-** | **-** | **1** | **-** | **-** | **-** | **-** | **-** | **-** | **2** | **2** |
| **CO2** | **3** | **2** | **1** | **-** | **-** | **-** | **1** | **-** | **1** | **-** | **-** | **2** | **-** | **2** | **1** |
| **CO3** | **2** | **3** | **2** | **1** | **-** | **-** | **1** | **-** | **-** | **2** | **-** | **1** | **-** | **2** | **1** |
| **CO4** | **1** | **3** | **2** | **1** | **1** | **1** | **2** | **-** | **-** | **-** | **-** | **2** | **2** | **1** | **2** |
| **CO5** | **3** | **2** | **1** | **1** | **-** | **1** | **1** | **-** | **-** | **-** | **-** | **1** | **2** | **2** | **1** |

### High-3 Medium-2 Low-1

**Practical(s)**

* 1. Write a program for print the IP Address of a WWW.YAHOO.COM
  2. Write a program for to print the IP Address of the local machine and hostname.
  3. Write HTML program to implement get( ) and post( ) methods
  4. Write a program for to identify the well known ports on a Remote system.
  5. Write a program for to print the parts of URL.
  6. Write a program for to send & receive data from datagram packet.
  7. Write a program for a chat application.
  8. Write a program for the simple file transfer between two systems by opening socket connection to out server on one system and sending a file from one system to another.
  9. Write a program for the HTTP server.
  10. Implement the concept of static routing.
  11. Implement the concept of dynamic routing (RIP, OSPF, BGP).
  12. Packet capture and header analysis by wire-shark (TCP,UDP,IP)

**Total: 30 Hours**

**Reference(s):**

* 1. Computer Networking- A Top-Down approach (6th edition), Kurose and Ross, Pearson
  2. Computer Networks- A Top-Down approach, Behrouz Forouzan, McGraw Hill
  3. Computer Networks (5th edition), Andrew Tanenbaum, Prentice Hall
  4. Computer Networking and the Internet (5th edition),Fred Halsall, Addison Wesley
  5. Data Communications and Networking (5th edition), Behrouz Forouzan, McGraw Hill
  6. TCP/IP Protocol Suite (4th edition), Behrouz Forouzan, McGraw Hill

**List of e-Learning Resources:**

1. https://nptel.ac.in/
2. <https://www.coursera.org/>
3. <https://www.netacad.com/courses/packet-tracer>

**Subject Tr. Academic Coordinator HoD Sr. Faculty Nominated by DOAA**