**Programme(UG/PG) : UG**

**Semester : V**

**Course Code : PCC-CS593**

**Course Title : COMPUTER NETWORKS LAB**



**UNIVERSITY OF ENGINEERING AND MANAGEMENT**

**KOLKATA**

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# LIST OF EXPERIMENTS & SCHEDULE

**COURSE CODE: PCC-CS593**

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| **Exp. No.** | **Title** | **Week No.** |
| 1 | Familiarization with   * Networking cables (CAT5, UTP) * Connectors (RJ45, T-connector) * Hubs, Switches   NIC Installation & Configuration (Windows/Linux) , Networking commands | 1 |
| 2 | Cisco Packet Tracer Lab – Basic Switch Configuration | Hostname | Password   1. Configure the hostname of the Switch as SW1 2. Set a message of the day (MOTD) banner for the switch-   \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  Only Authorized Users Allowed  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*   1. Configure a   line console password – India@123  enable secret password – Uem@123  **(YouTube video link for first 3 -** [**https://youtu.be/ZMC1YJB8CLs**](https://youtu.be/ZMC1YJB8CLs%20) **)**   1. FTP, DHCP Server Configuration   **(FTP-** [**https://youtu.be/Mk5WUsHOK0Y**](https://youtu.be/Mk5WUsHOK0Y) **, DHCP-** [**https://youtu.be/mM5DcgSCl3g**](https://youtu.be/mM5DcgSCl3g) **)** | 2 |
| 3 | IPC (Message queue), Socket Program for Echo/Ping/Talk commands   * Write a program to find the IP address of the system   **(** [**https://youtu.be/s2nOLjTd094**](https://youtu.be/s2nOLjTd094) **)**   * Write a socket program for implementation of echo.   **(** [**https://youtu.be/jgaQAIP4toU**](https://youtu.be/jgaQAIP4toU) **)**   * Write a client-server application for chat using TCP   **(** [**https://youtu.be/7WrXc7Pwv94**](https://youtu.be/7WrXc7Pwv94) **)**   * Write a program using client server socket programming: Client needs to authenticate itself by entering a server defined string as a password (like OTP) and then to say Hi to server. Server replies with a Hello. Press any key to exit. | 3,4 |
| 4 | File transfer  Write a program to Perform File Transfer in Client & Server Using TCP/IP.  **(**[**https://youtu.be/wCCXBXm00VI**](https://youtu.be/wCCXBXm00VI) **)** | 4 |
| 5 | Remote Command Execution  Write a program to implement Remote Command Execution (RCE). | 5 |
| 6 | Create a socket (UDP)  Write a program to implement simple client-server application using UDP.  **(**[**https://youtu.be/oXAucHQrHjU**](https://youtu.be/oXAucHQrHjU) **)** | 6 |
| 7 | Simulation of ARP  Web page downloading  TCP Module Implementation | 7 |
| 8 | Implementation of RMI  Write a socket program for implementation of client program in c language and server program in java language.  Write a client server socket programming, server stores a TXT file consisting of State Name and Capital city. Client will send ’State Name’ as request, and server should respond with matching ’Capital City’ and vice-versa, if found else adds this entry to the TXT file.  Connection should terminate only if client terminates it.    I/P : West Bengal  O/P : Kolkata    OR    I/P : Kolkata  O/P : West Bengal | 8 |
| 9 | Case study of different routing algorithms | 9 |
| 10 | Implement the data link layer framing methods such as character count, character stuffing and bit stuffing  Write a client server socket programming: write a client-server Cyclic redundancy check (CRC) program steps to follow:   1. Client sends a message to server with an appended CRC. 2. Server checks the data for any error and accepts it. (c) Server replies with ’good data’ / ’bad data’ depending upon there is no error on with error.   (Server and client will share a common divisor of 16 bit CRC) | 10,11 |
| 11 | Implement on a data set of characters the three CRC polynomials CRC 12, CRC 16 and CRC CCIP | 11 |