

# **Jharsuguda Engineering School, Jharsuguda**



## **LESSON PLAN**

**SUBJECT: DCCN**

**FACULTY NAME: - Barsha Rani Patel**

**Jharsuguda Engineering School, Jharsuguda**

## **Jharsuguda Engineering School, Jharsuguda**

### **LEARNING OUTCOMES:**

**After completion of the course, the students will be able to**

- Know the concepts of Data Communication, networking, protocols, and networking models**
- Know the various transmission Medias**
- Understand the concepts of switching**
- Understand various Error detection and correction methods**
- Know about data flow and error control**
- Know about data link control**
- Understand multiple access**
- Learn the concepts of wired LANs and Ethernet**
- Compare various connecting devices**
- Know the concepts of network layer, logical addressing, IP, Forwarding and routing**
- Understand brief concept on TCP/IP**

| LESSON PLAN                                        |                                  |
|----------------------------------------------------|----------------------------------|
| JHARSUGUDA ENGINEERING SCHOOL,JHARSUGUDA           |                                  |
| <b>Name of the Faculty: Mrs. Barsha Rani Patel</b> | <b>Academic Year: 2026-27</b>    |
| <b>Course No.: Th.1</b>                            | <b>Course Name: DIPLOMA</b>      |
| <b>Program: Diploma</b>                            | <b>Branch: E T C Engineering</b> |
| <b>Semester : 5<sup>th</sup></b>                   |                                  |

| Sl. No. | Period / Class | Time (min) | Unit | Topic to be covered                                                                                      | Teaching method               |
|---------|----------------|------------|------|----------------------------------------------------------------------------------------------------------|-------------------------------|
| 1.      | 1.             | 60         | I    | <b>UNIT 1 Network&amp;Protocol:</b><br>Data communicatin                                                 | Chalk&talk + PPT              |
| 2.      | 2.             | 60         | I    | network                                                                                                  | Chalk & talk + PPT            |
| 3.      | 3.             | 60         | I    | Protocol&architecture                                                                                    | Chalk&talk + NPTEL VIDEO      |
| 4.      | 4.             | 60         | I    | Standard- OSI, TCP/IP                                                                                    | Chalk&talk + PPT              |
| 5.      | 5.             | 60         | I    | <b>Revision Unit-1</b> & Doubt Clearing                                                                  | Revision + Doubt clear        |
| 6.      | 6.             | 60         | II   | <b>UNIT 2 Data Transmission&amp;Media:</b><br>Introduction of Data transmission Concepts and Terminology | Chalk&talk + NPTEL VIDEO      |
| 7.      | 7.             | 60         | II   | Data transmission Concepts and Terminology                                                               | Chalk&talk + Comparison Chart |
| 8.      | 8.             | 60         | II   | Channel capacity                                                                                         | Questioner + Discussion       |
| 9.      | 9.             | 60         | II   | Transmission media                                                                                       | Chalk&talk + NPTEL VIDEO      |
| 10.     | 10.            | 60         | II   | Guided Transmission                                                                                      | Chalk&talk + Live Demo        |
| 11.     | 11.            | 60         | II   | Wireless Transmission                                                                                    | Chalk&talk + PPT              |

| Sl. No. | Period / Class | Time (min) | Unit | Topic to be covered                                                                                 | Teaching method                |
|---------|----------------|------------|------|-----------------------------------------------------------------------------------------------------|--------------------------------|
| 12.     | 12.            | 60         | II   | <b>Revision Unit-2</b> &Doubt Clearing                                                              | Revision + Doubt clear         |
| 13.     | 13.            | 60         | III  | <b>UNIT 3 Data Encoding:</b><br>Introduction of data encoding                                       | Chalk&talk                     |
| 14.     | 14.            | 60         | III  | Data Encoding                                                                                       | Chalk&talk + PPT               |
| 15.     | 15.            | 60         | III  | Digital data digital signals                                                                        | Chalk&talk + Real life example |
| 16.     | 16.            | 60         | III  | Digital data analog signals                                                                         | Chalk&talk                     |
| 17.     | 17.            | 60         | III  | Analog data digital signals                                                                         | Chalk&talk + Case Study        |
| 18.     | 18.            | 60         | III  | Analog data analog signals                                                                          | Chalk&talk + PPT               |
| 19.     | 19.            | 60         | III  | <b>Revision Unit-3 &amp; Quiz</b>                                                                   | Questioner + Revision          |
| 20.     | 20.            | 60         | IV   | <b>UNIT 4 Data Communication&amp;Data link control</b><br>Asynchronous and Synchronous Transmission | Chalk&talk                     |
| 21.     | 21.            | 60         | IV   | Error Detection                                                                                     | Chalk&talk + NPTEL VIDEO       |
| 22.     | 22.            | 60         | IV   | Line configuration                                                                                  | Chalk&talk + PPT               |
| 23.     | 23.            | 60         | IV   | Flow Control ,<br>Error Control                                                                     | Chalk&talk                     |
| 24.     | 24.            | 60         | IV   | Multiplexing                                                                                        | Chalk&talk + Demo Video        |
| 25.     | 25.            | 60         | IV   | FDM synchronous TDM ,<br>Statistical TDM                                                            | Chalk&talk                     |
| 26.     | 26.            | 60         | IV   | <b>Revision Unit-4 &amp; Doubt Clearing</b>                                                         | Revision + Doubt clear         |

| Sl. No. | Period / Class | Time (min) | Unit | Topic to be covered                                               | Teaching method                |
|---------|----------------|------------|------|-------------------------------------------------------------------|--------------------------------|
| 27.     | 27.            | 60         | V    | <b>UNIT 5 Switching&amp;Routing</b><br>Circuit Switching networks | Chalk&talk + Real life example |
| 28.     | 28.            | 60         | V    | Packet Switching principles                                       | Chalk&talk                     |
| 29.     | 29.            | 60         | V    | X.25                                                              | Chalk&talk + Real life example |
| 30.     | 30.            | 60         | V    | Routing in Packet switching                                       | Chalk&talk + NPTEL VIDEO       |
| 31.     | 31.            | 60         | V    | Congestion,<br>Effects of congestion, congestion control          | Chalk&talk + PPT               |
| 32.     | 32.            | 60         | V    | Traffic Management                                                | Chalk&talk                     |
| 33.     | 33.            | 60         | V    | <b>Revision Unit-5</b> &Doubt Clearing                            | Revision + Doubt clear         |
| 34.     | 34.            | 60         | VI   | <b>UNIT 6 LAN Technology</b><br>Introduction of LAN Technology    | Chalk&talk + Case Study        |
| 35.     | 35.            | 60         | VI   | Topology and Transmission Media                                   | Chalk&talk                     |
| 36.     | 36.            | 60         | VI   | LAN protocol architecture                                         | Chalk & talk + PPT             |
| 37.     | 37.            | 60         | VI   | Bridges, Hub & Switch                                             | Chalk&talk + NPTEL VIDEO       |
| 38.     | 38.            | 60         | VI   | Ethernet (CSMA/CD)                                                | Chalk&talk + PPT               |
| 39.     | 39.            | 60         | VI   | Wireless LAN Technology                                           | Chalk&talk                     |
| 40.     | 40.            | 60         | VI   | <b>Revision Unit-6</b> & Quiz                                     | Questioner + Revision          |
| 41.     | 41.            | 60         | VII  | <b>UNIT 7 TCP/IP</b><br>TCP/IP Protocol Suite                     | Chalk&talk                     |

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|---------|----------------|------------|------|---------------------------------------------|--------------------------|
| 42.     | 42.            | 60         | VII  | Principles of Internetworking               | Chalk&talk + PPT         |
| 43.     | 43.            | 60         | VII  | Internet Protocol operations                | Chalk&talk               |
| 44.     | 44.            | 60         | VII  | Internet Protocol                           | Chalk&talk + NPTEL VIDEO |
| 45.     | 45.            | 60         | VII  | Final Revision Unit-7 & Full Course Wrap-up | Questioner + Revision    |

#### REFERENCES:

1. W.Stallings Data Communication & Computer Networks PHI
2. M.Bhatia Introduction to Comp. Network Univ. S. Press
3. Forouzen Data Communication & Network. TMH

*Baveha Rani Patel.*  
Faculty Signature

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HOD Signature