

## Lesson Plan of the 5<sup>th</sup> Semester for session 2024-25

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|-------------------------------------|----------------------------|
| <b>Name of the faculty:</b>         | Ms. Malik Neha Dayanand    |
| <b>Designation:</b>                 | Assistant Professor        |
| <b>Discipline:</b>                  | Computer Science and Engg. |
| <b>Semester:</b>                    | V <sup>th</sup> Sem        |
| <b>Subject:</b>                     | <b>Computer Networks</b>   |
| <b>Subject Code:</b>                | <b>PCC-CSE-303G</b>        |
| <b>Lesson Plan duration:</b>        | 15 weeks                   |
| <b>Work Load per week in hours:</b> | Lectures- 03               |

| Week              | Lecture day | Topic (Including Assignment/Test)  |
|-------------------|-------------|--|
| <b>UNIT – I</b>   |             |  |
| 1                 | 1           | Introduction to Computer Networks, Data communication and components               |
|                   | 2           | Computer network and its historical development, internet                          |
|                   | 3           | OSI model and TCP/IP model   |
| 2                 | 4           | TCP/IP model   |
|                   | 5           | Physical layer functions, data representation                                      |
|                   | 6           | Simplex, half duplex and full duplex transmission                                  |
| 3                 | 7           | Modulation and multiplexing  |
|                   | 8           | Packet and circuit switching   |
|                   | 9           | Transmission media and topologies  |
| 4                 | 10          | Connectionless and connection oriented services                                    |
|                   | 11          | Framing, Stop and wait, Go back-N ARQ  |
|                   | 12          | Selective repeat ARQ Sliding window protocol                                       |
| <b>UNIT – II</b>  |             |  |
| 5                 | 13          | MAC layer functions Random access , controlled access and channelization protocols |
|                   | 14          | Network layer functions and services   |
|                   | 15          | Logical addressing IPv4 classful and classless addressing                          |
| 6                 | 16          | Subnetting NAT, Ipv4, ICMPv4, ARP, RARP ARP, RARP                                  |
|                   | 17          | BOOTP, Ipv6, Ipv6 addressing, DHCP   |
|                   | 18          | Network devices, hub, repeaters switch, router, gateway                            |
| <b>UNIT – III</b> |             |  |
| 7                 | 19          | Introduction to routing, Shortest path algorithm                                   |
|                   | 20          | Flooding, hierarchical routing, link state and distance vector routing             |

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|------------------|----|--|
|                  | 21 | Transport layer functions and services, process to process communication |
| 8.               | 22 | UDP, TCP, TCP connection management                                      |
|                  | 23 | Application layer functions and services, Domain name space(DNS)         |
|                  | 24 | EMAIL, FTP, HTTP, SNMP   |
| <b>UNIT – IV</b> |    |  |
| 9.               | 25 | Congestion control, quality of service                                   |
|                  | 26 | QoS improving techniques   |
|                  | 27 | LAN, ethernet, token bus, token ring                                     |
| 10.              | 28 | MAN architecture-DQDB  |
|                  | 29 | WAN architectures-Frame relay  |
|                  | 30 | ATM, SONET/SDH   |
| 11.              | 31 | Network Security, Firewalls  |
|                  | 32 | Security goals, Types of attacks   |
|                  | 33 | Introduction to cryptography   |
| 12.              | 34 | Types of ciphers   |
|                  | 35 | Symmetric key ciphers  |
|                  | 36 | ASymmetric key ciphers   |
| 13.              | 37 | Revision of unit 1.  |
|                  | 38 | Test of unit 1.  |
|                  | 39 | Revision of unit 2.  |
| 14.              | 40 | Test of unit 2.  |
|                  | 41 | Revision of unit 3.  |
|                  | 42 | Test of unit 3.  |
| 15.              | 43 | Revision of unit 4.  |
|                  | 44 | Test of unit 4.  |
|                  | 45 | Revision of whole syllabus.  |