**Lesson Plan**

**Name of the Faculty - Ms. Manisha**

**Discipline - B.Tech(Computer Science and Engg)**

**Semester - 5th Semester**

**Subject - Computer Networks(PCC-CSE-303G)**

**Work Load per week (in hours) - Lectures - 03**

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| Week | Theory |
| Lecture Day | Topic  |
| 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 |
| 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 addresssing |
| 6. | 16. | Subnetting NAT, Ipv4, ICMPv4, ARP, RARP ARP, RARP |
| 17. | BOOTP, Ipv6, Ipv6 addressing, DHCP  |
| 18. | Network devices, hub, repeaters switch, router, gateway  |
| 7. | 19. | Introduction to routing, Shortest path algorithm  |
| 20. | Flooding, hierarchical routing, link state and distance vector routing  |
| 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  |
| 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. |