

Bangabandhu Sheikh Mujibur Rahman Digital University Bangladesh

Department of ICT

Bachelor of Science (Hon's) in Internet of Things

ICT 4255: Data Communication and Networks

Session: 2021-22 (Year 1 Semester 1)

Final Examination Syllabus

1. Classification of IPV4 Address
2. Default Subnet Mask
3. Disadvantages of Manual IP
4. Differences between IPV4 and IPV6
5. Supernetting
6. Subnet Mask
7. Advantages of Subnetting
8. Classless Inter domain Routing
9. Classfull and classless IP Address
10. Network address and broadcast address
11. Cyclic Redundancy check
12. TLS and SSL
13. Signal to Noise Ratio
14. Nyquist theorem
15. Shannon Capacity theorem
16. Free space loss
17. Modulation (AM, FM, PM)
18. Encryption Algorithm
19. Hubs, Bridges, Repeater, Router and Switches
20. Circuit switching and Packet switching
21. Components of Data Communication
22. Data flow
23. Network criteria
24. Physical structure of network
25. Types of Connection
26. Categories of Topology
27. Categories of Topology in the respect of distance
28. Switched Wan
29. Point to point WAN
30. National ISP
31. TCP/IP Protocols

32. Elements of Protocols
33. Communication Model
34. Analog to digital
35. Network model
36. Transmission mode
37. Difference and comparison of different types of topology.
38. Physical, Logical, Port and Specific Address
39. Shortest path algorithm
40. Name servers;
41. Email and Its privacy, Network security
42. Authentication; Digital signatures, Principles of Reliable Data Transfer FTP
43. Proxy server, FTP server, E-mail server, web server, DB server
44. Firewall
45. DNS, SMTP