

## Question

### 1st slide

1. Infrastructure
2. Basic of Network, Transfer of PDU
3. Format of TCP PDU, and UDP, IPV4  
tcpdump

2nd

4. Client-Server communication in WWW

5. Concept of URI and URL

6. Interconnecting IP network

7. HTTP Protocols.

8. Persistent and non persistent

9. Evolution of HTTP 1.0, 2.0, Transport concept  
Version 3.0.

10. QUIC Protocol

11. TCP/IP protocols, features (full), Format (mean)

12. TCP handshake (3 way), TCP sequence Numbering.  
TCP for controlling flow, flow control in TCP

13. IPv4

14. Multiplexing

15. Connection oriented Demultiplexing by TCP



16. DNS. Concept of DNS. (Zone and domain)

17. ~~Are~~ Domain maintenance. other.

18. How DNS work, DNS lookup, DNS Record Type

19. Concept of DNS work, and format.

20. What is Attack vector in DNS system.

21. Client Server Communication [Youtube Link] [Packet Traveling]

22. ARP, RIP

23. Protocol structure. [cross layer communication]

24. Transfer PDU, Concept of Mac address and IP addresses.

25. How ethernet packet composed with ~~IP~~ TCP/UDP header.

26. Sending a packet from aryan to neon [Youtube] ↑

27. VPN concept [another youtube Tutorial]

28. What is Layer 2, 3 VPN

29. Another link (For Lan to Lan bridging, cascade, OpenVPN)

30. Concept of IPV4 Problem with

31. Classful what is A Classful, How are provide with



classless improve it <sup>with</sup> a classless CRID.

### 30. Concept of DHCP

31. Unicast Broadcast, Multicast.

32. Function of switching layer between switching and routing.

33. What is Routing tables.

34. How Routing table lookup by longest prefix match.

35. Router Discovery by ICMP solicitation and advertisement.

36. Archi of the router, what is inside the router.

37. Logical Archi. of Router

38. switching fabric.

39. Crossbar switch, serial-parallel conversion.

40. Buffer concept, how we can control and provide traffic as minimum quality of service, using cros.

60. Scheduling Discipline, ~~can~~ weighted fair queuing.  
 what is  
 61. A Private IP address and NAT/PAT

62. IPv6 [compare and Improvement with IPv4]  
 and Format [Format comparing]

63. Property and purpose of IPv6 units

64. How IPv6 connect with IPv4 by Tunneling

65. What is Firewall, what is the purpose.

66. Access control list, Stateful Packet filtering  
 and. ~~the~~ concept of intrusion detection.

67. IP security protocols

68. Security Association and <sup>Encapsulating.</sup> Authentication.

69. Encapsulating (ESP protocols and its  
 infrastructure)

70. Compare Auth header and ESP.

SKIP - Routing IP-Network software.

51. Link state, Distance Vector, Intra domain Routing  
 must learn [but don't think so]

[YouTube tutorial], OSPF is free

52. Distance vector

BGP