1.

* VLSM , CIDR, DHCP

2.

* Network layer basic, communication between network layers

3.

* 2 two key Network layer function, two key Network layer function
* Routing and forwarding.

6.

* Routing, forwarding table example.

7.

* Connection setup, connection setup by virtual circuit
* Another important function of routing and forwarding (connection setup)

8.

* Virtual circuit (defn)
* Network layer vs transport layer

10.

* Connection oriented and connection less services

11.

virtual circuit setup, how virtual circuit works

12.

* two key Network layer function

13.

* Connectionless network / datagram network
* Connectionless network / datagram network table/ datagram forwarding

16

* Protocols in many layers (network layers)
* IP datagram format

17

* IP datagram fragmentation
* MTU (Maximum transmission unit)

19.

* MTU example

20

* IP addressing

22.

* subnet mask

23.

* identify how many networks are there

24.

* 2 way to get IP address
* Static IP addressing and dynamic IP addressing
* DHCP (Dynamic host configuration protocol.)

25.

* Goal of DHCP server
* How DHCP server works

26.

* How DHCP server works

27.

* DHCP package

28.

* NAT
* Network address translation
* Public IP and private IP

29.

* Motivation of using NAT, benefits of using NAT

30.

* Implementation of NAT

33.

* some basic and problem about NAT

34.

* problem about NAT solution

36.

* static routing and dynamic routing
* dynamic routing 🡪 1. link state 2. distance vector

38.

* routing and forwarding(again)

39.

* routing algorithms classification (static or dynamic)
* global and decentralized routing information
* link state algorithm (digstra’s algo)

42.

* example: of Dijkstra aldo

44.

* distance vector algorithm
* bellman-ford algo

45.

* distance vector algorithm benefits

46.

* features of distance vector algorithm (iterative, asynchronous)
* example of distance vector algorithm

48.

* Link cost changes in distance vector

49.