Networking Interview Questions:

1. Difference between FTP & SFTP

FTP	SFTP
Non-Secure	Secure
20,21	22

2. Difference between Telnet & SSH

Telnet	SSH
Non-Secure	Secure
23	22

3. Difference between HTTP & HTTPS

HTTP	HTTPs
Non-Secure	Secure
80	443

4. Difference between IMAP & SMTP

IMAP	SMTP
It is used for retrieving emails.	It is used for sending emails.
The Port number used for IMAP is 143 and 993.	The Port number used for SMTP is 25 and 465.

5. Difference between TCP & UDP

TCP	UDP
Slower	Fast than TCP
Reliable	Unreliable

6. Difference between Router & Switch

Router	Switch
Network Layer Device	Data-Link Layer Device Note: Multilayer Switch works at both Network & Data-Link
Routing capable	Not Routing capable
Works with IP address	Works with MAC Address
DO not work VLAN	Work with VLAN
NAT capable	Not to able to NAT
Maximum Port – 2/4/8	Port – 16/24/48

7. What is DNS? 4 Names of public DNS server IP

Ans: Process to resolve Name to IP & Vice–versa

Query – 2 Types

Recursive Query: Query to self >

C:\Windows\System32\drivers\etc & ipconfig /displaydns

ipconfig /flushdns

Iterative Query: Query to outside the host

4 Names of public DNS server IP:

Company	IP-Address
Google	8.8.8.8 8.8.4.4
Cloudflare	1.1.1.1
Quad9	9.9.9.9
OpenDNS (Cisco)	208.67.222.222 208.67.220.220

8. Write the command of telnet & SSH configuration
   Ans:

Telnet	SSH
enable password cisco username itbd password itbd line vty 0 1 login local	enable password cisco username itbd password itbd line vty 0 1 login local hostname SSH-Server ip domain-name itbd.tech crypto key generate rsa

9. Create a DHCP pool for 172.16.0.0/20 Network, where client's gateway will be the last IP of the given network

DHCP Pool
Ip dhcp pool 172-Net Network 172.16.0.0 255.255.248.0 Default-router 172.16.15.254 Dns-server 8.8.8.8

10. Write the command of DHCP relay agent on port f0/2.

Int f0/2
Ip helper-address 172.16.1.1
Note: [172.16.1.1 is the DHCP Server's IP]

11. Set an IP address – 10.10.10.1/29 on a g0/1 interface in cisco router

Int g0/1
Ip add 10.10.10.1 255.255.255.248
No shutdown

12. Set an IP address – 10.10.10.1/29 on a g0/1 interface in mikrotik router

Ip address add address=10.10.10.1/29 interface=ether-1 disable=no

13. Set an IP address – 10.10.10.1/29 on a sub-interface of g0/1 in cisco router

```
Int g0/1
No shutdown
Int g0/1.10
encapsulation dot1q 10
ip add 10.10.10.1 255.255.255.248
```

14. Set an IP address – 10.10.10.1/29 on vlan-10 interface in cisco switch

```
Int vlan-10
Ip add 10.10.10.1 255.255.255.248
```

15. What is CDP?
    Ans: To see cisco connected device - neighbors

    show cdp neighbors

    sho cdp entry *

    Sending CDP packets every 60 seconds
    Holdtime is 180 seconds

16. Set a virtual IP address – 10.10.10.1/29 & set priority 200 on a g0/1 interface in cisco router

```
Int g0/1
Standby 1 ip 10.10.10.1
Standby 1 priority 200
Standby 1 preempt
```

17. Secure the interface of f0/1 in cisco switch

```
Int f0/1
Switchport mode access
Switchport port-security
Switchport port-security maximum 1
Switchport port-security mac-address sticky / Manually MAC
Switchport port-security violation shutdown/protect/restrict
```

18. Configure the port f0/2 as a trunk port of cisco switch. Write the command to see the trunk port

```
Int f0/2
Switchport mode trunk
```

Show interface trunk

19. Configure the port f0/1 as an access port of cisco switch. Write the command to see the VLANs

Int f0/1 Switchport mode access Show interface vlan brief

20. Configure the trunk port – f0/1 of Multilayer-Switch.

Int f0/1 switchport trunk encapsulation dot1q

21. Configure specific VLANs (10,20,40) in a trunk port.

Int f0/1 switchport trunk allowed vlan 10,20,40 switchport trunk allowed vlan add 50 switchport trunk allowed vlan remove 50 switchport trunk allowed vlan except 40

22. Why do we use HSRP? What is VRRP & GLBP?

HSRP: Link redundancy (Backup Link) – Cisco Proprietary VRRP: Virtual Router Redundancy Protocol : Link redundancy (Backup Link) : Non- Cisco Proprietary GLBP : Gateway Load Balancing Protocol : Not Only Link redundancy (Backup Link) but also provide load balance

23. What is the Routing & Routed Protocol? Give the example of these 2 protocols.

Routing Protocol	Routed Protocol
Best Path Selection	Packet Flow via which protocol
Example: OSPF, RIP , EIGRP , IS-IS	Example: IPv4 , IPv6

24. Which **subnet** does host **172.26.70.54/27** belong to?
    Answer: 172.26.70.32

25. Write down the port number & function of below protocols

Protocol	Port	Function
SSH	22	Provide remote connectivity at secure way
Telnet	23	Provide remote connectivity at non-secure way
DHCP-Server	67	Provide IP address, Gateway,DNS info to clients
SMTP	25	Send an E-Mail
ICMP	7	Connectivity Test
DNS	53	Resolve the hostname/domain-name to IP or IP to Hostname
HTTPS	443	Browse at secure connection
HTTP	80	Browse at non-secure connection
IMAP	143	Receive an E-Mail
DHCP-Client	68	Gather IP address, Gateway,DNS info from Server
FTP	20,21	File upload/download
NTP	123	Provide time centrally

26. Router & Switch works at which layer?

Router	Switch
Network Layer	**Data-Link Layer**

27. Write some protocols name of Layer-7, Layer-4, Layer-3, Layer-2.

Layer-7	Layer-4	Layer-3	Layer-2
DNS **HTTPS** **HTTP** **Telnet** **SSH** **FTP**	**TCP** **UDP**	**IP** **ARP** **ICMP**	**PPP**

28. Write down the 3 functions of Layer-2.

1. Physical Addressing
2. Error Correction

3. Convert bits to Frame

29. Write down the 3 functions of Layer-3.

1. Logical Addressing
2. Best Path Selection
3. Packet Forwarding

30. Logical Addressing, Physical Addressing & Port Addressing occurs at which layer accordingly?

Logical Addressing	Layer-3
Physical Addressing	Layer-2
Port Addressing	Layer-4

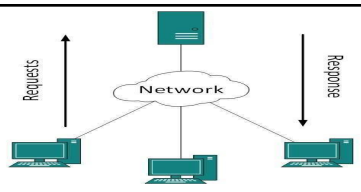
31. Write some fields name of TCP packet in Transport Layer

Source Port
Destination Port
Sequence Number
Acknowledge Number

32. What is ARP? What is the command to show the ARP table of your PC? What is the command to see CAM table:

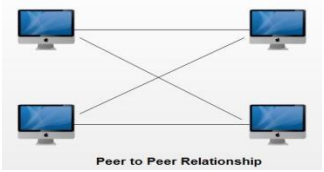
ARP: Find the MAC address from IP Address
Command: arp -a
To see CAM table: show mac-address-table

33. Draw a diagram of the Server-Client model.

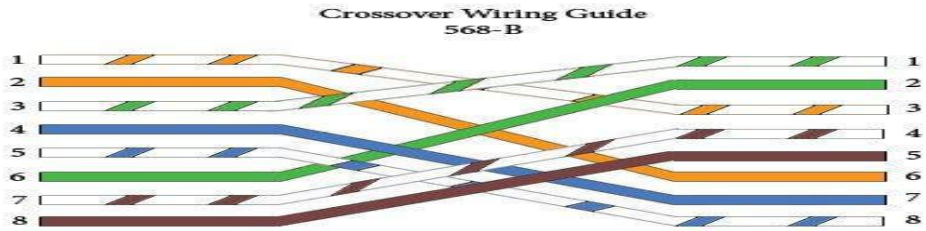


Example: WhatsApp

34. Draw a diagram of the Peer-to-Peer model.

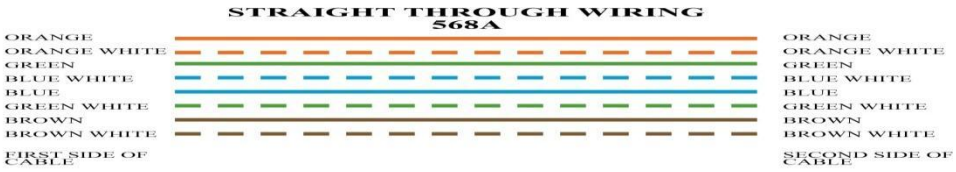


35. Write down the color code of cross-over cable



Pin	Colored Scheme	T-568B (Common)	T-568A
1	Blue	Orange Stripe	Green Stripe
2	Orange	Orange	Green
3	Black	Green Stripe	Orange Stripe
4	Red	Blue	Blue
5	Green	Blue Stripe	Blue Stripe
6	Yellow	Green	Orange
7	Brown	Brown Stripe	Brown Stripe
8	White (or Grey)	Brown	Brown

36. Write down the color code of straight through cable



37. You are designing a subnet mask for the 192.168.9.0 network. You want 3 subnets with up to 50 hosts on each subnet. What subnet mask should you use?
Answer: 255.255.255.192 or /26

38. Do the VLSM from the network block : 172.16.0.0/20
    Users: 20,50,180,90,70,2,3,6,49,63,127,80,300,512,51,510

Users	Networks
512	172.16.0.0/22
510	172.16.4.0/23
300	172.16.6.0/23
180	172.16.8.0/24
127	172.16.9.0/24
90	172.16.10.0/25
80	172.16.10.128/25
70	172.16.11.0/25
63	172.16.11.128/25
51	172.16.12.0/26
50	172.16.12.64/26
49	172.16.12.128/26
20	172.16.12.192/27
6	172.16.12.224/29
3	172.16.12.232/29
2	172.16.12.240/30

39. Configure OSPF configuration for the 2 networks : 172.16.0.0/25 & 192.168.10.0/26 at area 0

```
Router ospf 1
Network  172.16.0.0     0.0.0.127  area 0
Network  192.168.10.0  0.0.0.63    area 0
```

40. Write the command of OSPF configuration on interface g0/1 at area 0

```
Int g0/1
Ip ospf 1 area 0
```

41. Write the command of EIGRP for the 2 networks : 172.16.0.0/25 & 192.168.10.0/26

```
Router eigrp  200
Network  172.16.0.0
Network  192.168.10.0
No auto-summary
```

42. Write the command of RIP for the 2 networks : 172.16.0.0/25 & 192.168.10.0/26

```
Router rip
Version 2
Network  172.16.0.0
Network  192.168.10.0
No auto-summary
```

43. What's the difference between Version 1 & 2 in RIP?

Version – 1	Version – 2
Support class full /8 , /16 , /24	Support class less /9 , /17 , /25
Do not Support password authentication	Support password authentication
Do not support VLSM	Support VLSM

44. Do supernetting (Summarizarion)
    172.16.128.0/18, 172.16.192.0/20 , 172.16.224.0/22

172.16.128.0/18, 172.16.192.0/20 , 172.16.224.0/22

172.16.128.0	10000000
172.16.192.0	11000000
172.16.224.0	11100000
172.16.	10000000 . 00000000

Ans: 172.16.128.0/17

45. What is Process ID? Write down the range of process ID? Where do you use this process ID?

Process ID: A locally unique ID
Range: 1 - 65535
Usage : in OSPF

46. What is AS ID? Write down the range of AS ID? Where do you use this AS ID?

AS ID / ASN = Autonomous System Number = Globally Unique Number/ID

Range: 1-65535
Usage: in EIGRP

47. How many steps for selecting Router-ID at OSPF? Write down these steps.

Steps: 3

1. Manually Router-ID
2. Highest Loopback Interface IP
3. Highest Active Interface IP

48. Write down the name of states of OSPF process

Down state.
Attempt state.
Init state.
2-Way state.
Exstart state.
Exchange state.
Loading state.
Full state.

49. What is DR, BDR, ABR, and ASBR in OSPF?

DR = Designated Router
BDR = Backup Designated Router
ABR = Area Boarder Router : Which connects multiple AREA
ASBR = Autonomous System Boarder Router : Which connects multiple AS

50. What is the metric of RIP, OSPF, EIGRP

RIP	Hop count
OSPF	Bandwidth
EIGRP	**Bandwidth , Delay** , MTU , Load , Reliability

51. What is Administrative Distance? Write down the AD Value of Static Route, RIP, OSPF, EIGRP.

Administrative distance is the first criterion that a router uses to determine which routing protocol to use if two protocols provide route

Static Route	1
RIP	120
OSPF	110
EIGRP	90

52. What is successor & Feasible successor in EIGRP?

Successor: The primary route used to reach a destination. The successor route is kept in the routing table. Notice that successor is the best route to that destination.
Feasible successor: The backup route.

53. What is Advertise distance & feasible distance in EIGRP?

Advertised distance (AD): the cost from the neighbor to the destination.
Feasible distance (FD): The sum of the AD + the cost between the local router and the next-hop router

54. What valid host range is the IP address 172.25.22.55 255.255.255.224 a part of?
    Answer: 172.25.22.33 - 172.25.22.62
55. EIGRP use ------- types of packets to communicate. What are these packets?
    Ans: 5 Types of packets
    a. Hello
    b. Update
    c. Ack
    d. Query
    e. Reply
56. What are the key fields of Hello packets those have to match in OSPF?

Hello/dead interval
Area ID
Authentication
DR IP
BDR IP
**Peer to Peer Network: Hello interval – 10 Secs & Dead Interval = 40 Secs
** NBMA – Non Broadcast Multi-access :
Hello interval – 30 Secs & Dead Interval = 120 Secs

57. What is encapsulation & de-capsulation?

Encapsulation adds information to a packet as it travels to its destination.

Decapsulation reverses the process by removing the info, so a destination device can read the original data.

58. What is VLAN? Why we use vlan?

VLAN : Physically one network but logically more networks

Uses: 1. Decreases the size of broadcast domain by increasing number of broadcast domain
2. Management simplicity
3. Increase security
4. Minimize the cost

59. How many vlans are default in cisco switch? What are these?

Number of VLANs = 5
These are : VLAN -1(Default VLAN) , 1002, 1003, 1004, 1005

60. What types of vlans are there in cisco switch?

Default VLAN
Data VLAN
Voice VLAN
Management VLAN
Native VLAN

61. What is VTP? Write the name of mode of VTP?

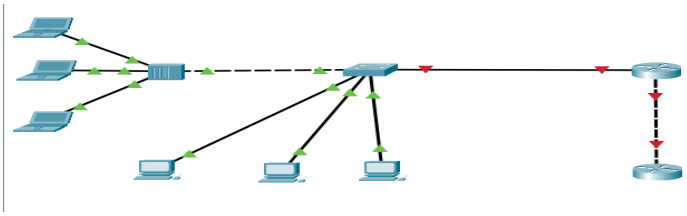
VTP : Vlan Trunking Protocol

3 Modes:
Server
Transparent
Client

62. Why we use Spanning Tree Protocol?

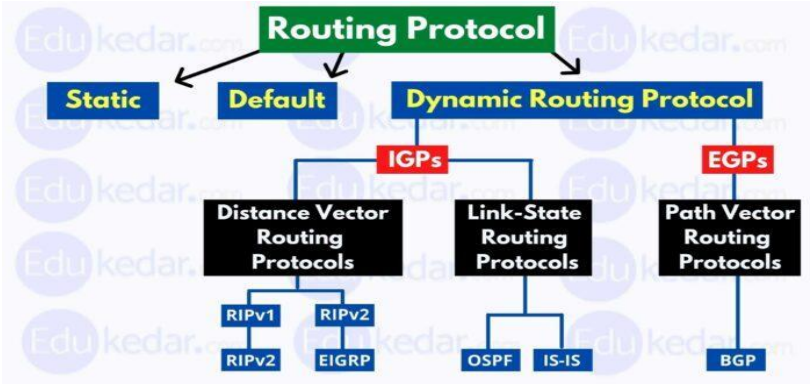
1. Preventing Loop
2. Prevent Duplicate Data
3. Prevent MAC_Address Instability

63. What is collision & broadcast domain? How many CD & BD at below image?

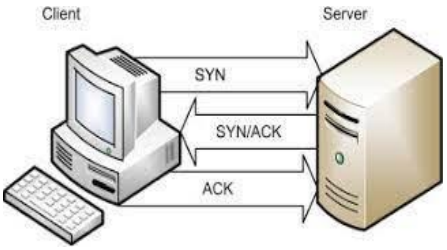


The Collision domain is a network section that allows traffic to flow forward and backward. A Broadcast domain is a type of Domain wherein traffic flows all over the network

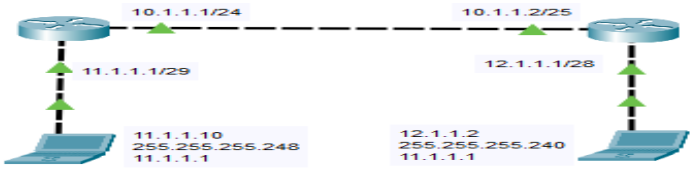
64. What types of routing protocol are there & mention their name.



65. Write the name of packets of 3 way handshake process.



66. What are problems in the below image? Static route is ok at there.



Answer: Gateway of the right most PC is wrong.

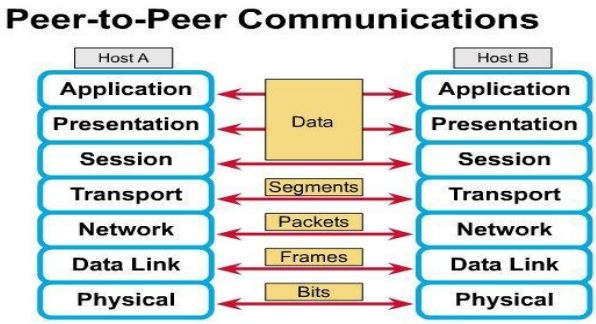
67. How many packets at DHCP process? What are these DHCP Packets? 1st packet, which is initiated from clients is the broadcast packet – True/False

How many packets at DHCP process = 4 Packets

a. Discover - Client (Broadcast Packet)
b. Offer - Server (Unicast Packet)
c. Request - Client (Broadcast Packet)
d. Ack - Server (Unicast Packet)

1st packet, which is initiated from clients is the broadcast packet – True

68. Write down the name of PDUs of OSI 7 Layers.



69. Error Correction, Encryption, Authentication is occurred at which layer accordingly?

Error Correction	Data Link Layer
Encryption	Presentation Layer
Authentication	Application Layer

70. Write down the command for configuring AAA server.

AAA = Authentication, Authorization, Accounting
At Client side command:

```
Router(config)#aaa new-model
Router(config)#aaa authentication login default group tacacs+ local
Router(config)#tacacs-server host 10.10.10.10 key 123
Router(config)#line vty 0 1
Router(config-line)#login authentication default
```

71. Write down the steps of password reset.

Step-1: Restart the Router
Step-2: Enter into Rommon Mode by pressing “Ctrol + Shift + Pause/Break”
Step-3: Change the configuration register and reset the machine

rommon 1 > confreg 0x2142
rommon 1 > reset

Step-4: Copy the startup configuration file

Router#copy startup-config running-config

Step-5: Change the register value and save the configuration

itbd(config)#config-register 0x2102

itbd#copy running-config startup-config

Step-6: Reload the machine

itbd#reload

72. What types of ACL are there in cisco? Mention the value of different types of ACL

3 types of ACL :

a. Standard ACL
b. Extended ACL
c. Named ACL

Value of ACL:

a. Standard ACL : 1 – 99 :
   - Works with only Source Address
   - It is applied close to the destination

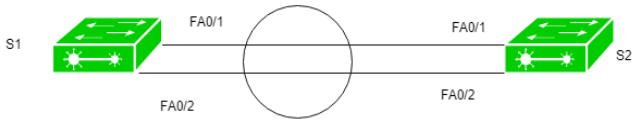
b. Extended ACL : 100 – 199
   - Works with Source Address , Source Port , Destination Add & Port , Service
   - It is applied close to the source

73. What is WLC?

A wireless LAN controller (**WLC**) is a network component that centrally manages wireless network access points

74. What is Ether-Channel? Types of ether-channel.

Ether Channel is a **port link aggregation technology** in which multiple physical port links are grouped into one logical link. It is **used to provide high-speed links and redundancy**. A **maximum of 8 links can be aggregated** to form a single logical link.



The 2 Ether channel Protocols:

We also have two protocols that we can use, aside from manually configuring Ether Channel.

1. **Port Aggregation Protocol (PAgP)** – is **a Cisco proprietary** Ether Channel protocol where we can combine a maximum of 8 physical links into a single virtual link.
2. **Link Aggregation Control Protocol (LACP)** – is an **IEEE 802.3ad standard** where we can combine up to 8 ports that can be active and another 8 ports that can be in standby mode.

Why Do We Need Ether Channel?

Below are the advantages and benefits of implementing EtherChannel on our networks:

(1.)Increased Bandwidth:

In our network planning, we always take into account the cost. For example, our company **needs more than 100 Mbps bandwidth, but our hardware only supports Fast Ethernet (100 Mbps)**. In this case, we can opt not to upgrade the hardware by implementing EtherChannel.

Also, we might think that if we have two or more links between two switches, like in our figure above, then we can utilize the full bandwidth of these links. But, in a traditional network setup, Spanning Tree Protocol (STP) blocks one redundant link to avoid Layer 2 loops. Our solution to this problem? EtherChannel.

EtherChannel aggregates or combines traffic across all available active links, which makes it look like one logical cable. So in our example, if we have 8 active links with 100 Mbps each, that will be a total of 800 Mbps. If any of the physical links inside the EtherChannel go down, STP will not see this and will not recalculate.

(2.)Redundancy:

Since more than one physical connection is combined into one logical connection, EtherChannel enables more available links in instances where one or more links go down.

(3.)Load Balancing:

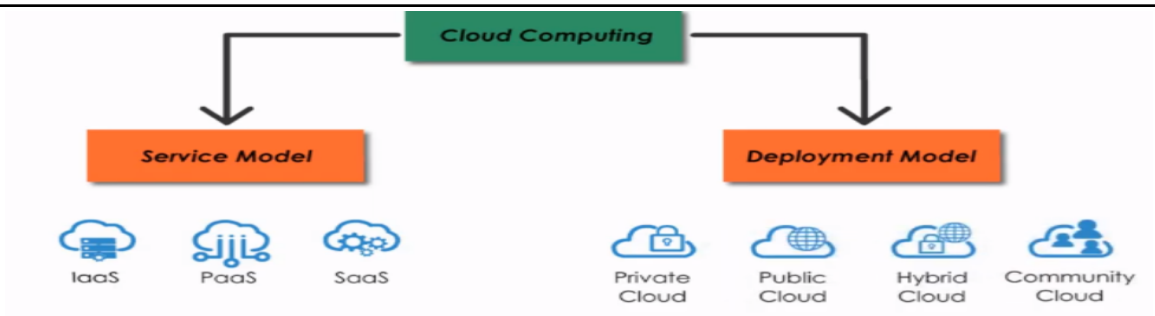
With load balancing, we are able to balance the traffic load across the links and improves the efficient use of bandwidth.

NOTE:
Cisco does not offer round-robin load balancing for EtherChannel as it could potentially result in out-of-order frames.

75. What is cloud computing? Write the types of Cloud computing. Write the name of some cloud service provider.

https://itbd-training.blogspot.com/2020/12/introduction-of-cloud-computing.html

Simply put, cloud computing **is the delivery of computing services**—including servers, storage, databases, networking, software, analytics, and intelligence—**over the Internet ("the cloud")** to offer **faster innovation, flexible resources, and economies of scale**. You typically **pay only for cloud services you use**, helping you lower your operating costs, run your infrastructure more efficiently, and scale as your business needs change.



Name of some cloud service providers:

1. Amazon Web Services
2. Microsoft Azure
3. Google Cloud Platform
4. Alibaba Cloud
5. Salesforce
6. IBM
7. Digital Ocean
8. Dell

76. What is the command to enable routing in cisco L-3 switch?
    Answer: **ip routing**
77. Write down the name of 5 ISPs & 2 IIGs

https://ipasn.com/list-all-internet-service-providers-isp-in-bangladesh-bd/

ISP:

a. Aamra technologies limited
b. Summit Communications Ltd
c. EARTH TELECOMMUNICATION (Pvt) LTD
d. ICC Communication
e. Link3 Technologies Ltd.

http://old.btrc.gov.bd/sites/default/files/operater_list/International_Internet_Gateway_(IIG)_Services.pdf

IIG:

1. Bangladesh Telecommunications Company Limited
2. Mango Teleservices Limited
3. Fiber@Home Global Limited
4. BD Hub Limted
5. Bangladesh Submarine Cable Company Limited (BSCCL)

78. Write the history of Bangladesh Submarine Cable Company Limited (BSCCL). Write the name of Submarine cable landing station in Bangladesh.

প্রতিষ্ঠানের ইতিহাস

বাংলাদেশ সাবমেরিন কেবল্ কোম্পানী লিমিটেড (বিএসসিসিএল) প্রধানতঃ একটি মূল টেলিযোগাযোগ সেবা প্রদানকারী প্রতিষ্ঠান এবং আন্তর্জাতিক কনসোর্টিয়ামের সাবমেরিন কেবলের অপারেটর। এছাড়াও এটি একটি ইন্টারন্যাশনাল ইন্টারনেট গেটওয়ে (আইআইজি) প্রতিষ্ঠান। বিএসসিসিএল কর্তৃক প্রদত্ত সেবাসমূহের মাধ্যমে বিশ্বের অন্যান্য দেশের সহিত বাংলাদেশের দূরপাল্লার যোগাযোগ স্থাপিত হয়ে থাকে। বাংলাদেশ তার ও টেলিফোন বোর্ড (সংশোধনী) অধ্যাদেশ-২০০৮ [বাংলাদেশ তার ও টেলিফোন বোর্ড (সংশোধনী) আইন-২০০৯ দ্বারা প্রতিস্থাপিত] এর ৫বি ধারায় ল্যান্ডিং স্টেশনসহ সাবমেরিন কেবল্ অধুনালুপ্ত বিটিটিবি থেকে আলাদা করে ডাক, টেলিযোগাযোগ ও তথ্য প্রযুক্তি বিষয়ক মন্ত্রণালয়ের অধীন ডাক ও টেলিযোগাযোগ বিভাগের অন্তর্গত পৃথক একটি পাবলিক লিমিটেড কোম্পানী গঠন করা হয়। উক্ত ধারা মোতাবেক ২৪ জুন ২০০৮খ্রিঃ তারিখে বাংলাদেশ সাবমেরিন কেবল্ কোম্পানী লিমিটেড (বিএসসিসিএল) পাবলিক লিমিটেড কোম্পানী হিসাবে রেজিষ্ট্রার অব জয়েন্ট স্টক কোম্পানীজ (আরজেএসসি) -তে নিবন্ধিত হয়। একই তারিখে বিএসসিসিএল আরজেএসসি হতে 'সার্টিফিকেট অব ইনকর্পোরেশন' এবং 'সার্টিফিকেট অব কমেন্সমেন্ট অব বিজনেজ' প্রাপ্ত হয়। পরবর্তীতে ৩০ জুন ২০০৮খ্রিঃ তারিখে সরকারের সাথে ভেন্ডর চুক্তি স্বাক্ষরিত হয় এবং ০১ জুলাই ২০০৮খ্রিঃ তারিখ হতে বিএসসিসিএল পাবলিক লিমিটেড কোম্পানী হিসাবে এর বাণিজ্যিক কার্যক্রম শুরু করে। বিএসসিসিএল ২০১২ সালে ঢাকা ও চট্টগ্রাম স্টক একচেঞ্জে তালিকাভূক্ত হয়।

গত ৬ই জুন, ২০১৫খ্রিঃ তারিখে ভারতের মাননীয় প্রধানমন্ত্রী শ্রী নরেন্দ্র মোদীর বাংলাদেশ সফরের সময় ভারত ও বাংলাদেশের মাননীয় প্রধানমন্ত্রীগণের উপস্থিতিতে বিএসসিসিএল এর ব্যবস্থাপনা পরিচালক ও বিএসএনএলের চেয়ারম্যান ত্রিপুরা রাজ্যের জন্য ১০ জিবিপিএস আইপি ব্যান্ডউইডথ রপ্তানী চুক্তি স্বাক্ষর করেন, যা ২৩শে মার্চ, ২০১৬খ্রিঃ সালে ভারত ও বাংলাদেশের মাননীয় প্রধানমন্ত্রীগণ ভিডিও কনফারেন্সিং এর মাধ্যমে শুভ উদ্বোধন করেন ।এই চুক্তির অধীনে, বিএসসিসিএল ৮ ফেব্রুয়ারি ২০১৬ হতে ১০ জিবিপিএস আইপি ব্যান্ডউইডথ ত্রিপুরাতে রপ্তানি করতে শুরু করেছে।

বাংলাদেশ সাবমেরিন কেবল্ কোম্পানী ২০১৪ সালে SMW-5 কনসোর্টিয়ামের সহিত চুক্তি স্বাক্ষরের মাধ্যমে দেশের দ্বিতীয় সাবমেরিন কেবল্ এ যোগদান ও মালিকানা নিশ্চিত করে যা গত ১০ সেপ্টেম্বর-২০১৭ খ্রিঃ তারিখে, বাংলাদেশের মাননীয় প্রধানমন্ত্রী শেখ হাসিনা ভিডিও কনফারেন্সিং এর মাধ্যমে শুভ উদ্বোধন করেন। এই SMW-5 কেবল্ সংযুক্ত হওয়ার মাধ্যমে বিএসসিসিএল এ ১৩০০ জিবিপিএস ব্যান্ডউইডথ যোগ হয়।

Cable Landing Stations in Bangladesh:

There are now two submarine cables landing in Bangladesh:
SEA-ME-WE 4 (SMW4) and SEA-ME-WE 5 (SMW5), at **Cox's Bazaar cable landing station and Kuakata cable landing station respectively.**

Both SMW4 and SMW5 are built and owned by Bangladesh Submarine Cable Company Limited(BSCCL) . BSCCL has its head office and international internet gateway (IIG) data center at Rahmans' Regnum Center, 191, Tejgaon, Gulshan Link Road, Dhaka, Bangladesh.

Bangladesh is going to be connected with a **third submarine cable** to meet the rapidly growing demand for internet bandwidth and ensure uninterrupted broadband internet services.

It will need to spend Tk 693 crore to get linked with the third submarine cable. Of the amount, Tk 392 crore will come from government funds and the rest from Bangladesh Submarine Cable Company Ltd (BSCCL)
News: https://www.thedailystar.net/frontpage/news/country-join-3rd-submarine-cable-2003709

79. What is Subnet Mask?

A subnet mask is **a 32-bit number created by setting host bits to all 0s and setting network bits to all 1s**. In this way, the subnet mask **separates the IP address into the network and host addresses**. The "255" address is always assigned to a broadcast address, and the "0" address is always assigned to a network address.

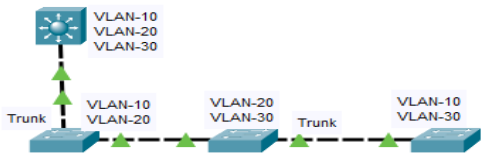
80. What is the maximum length allowed for a UTP cable? Write the speed of media?

A single segment of **UTP cable** has an **allowable length** of **90 to 100 meters**.

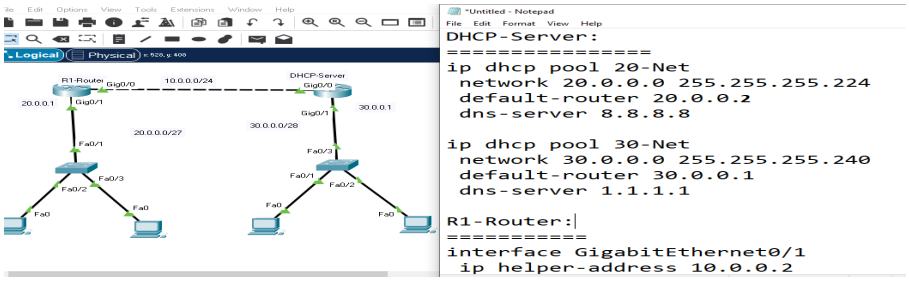
High-Speed LAN Characteristics

	Fast Ethernet	Gigabit Ethernet	Fibre Channel	Wireless LAN
Data Rate	100 Mbps	1 Gbps, 10 Gbps, 100 Gbps	100 Mbps - 3.2 Gbps	1 Mbps - 54 Mbps

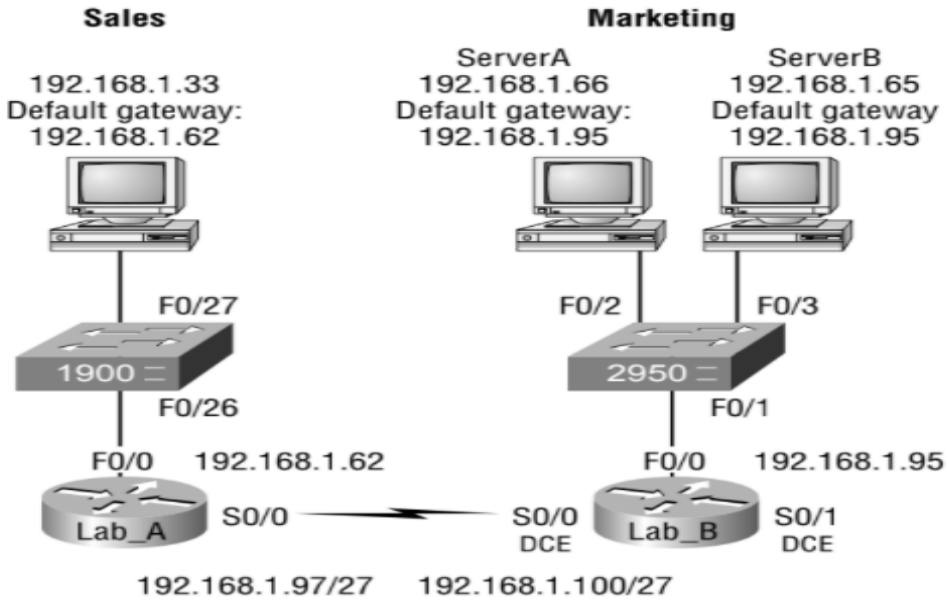
81. What is NAT? What types of NAT is there? Describe these types.
82. How you can secure a computer network?
83. What is NIC, LAN, WAN, MAN, PAN?
84. Write the Private IP Address range of Class-A,B,C
85. What is MAC address? Write something about MAC Address.
86. How can you identify the IP class of a given IP Address?
87. What are firewalls?
88. What does ping & tracert command?
89. What can be considered as good passwords?
90. What does ipconfig, ifconfig & ipconfig /all command?
91. What is Unicast, Multicast & Broadcast?
92. What are problems are there?



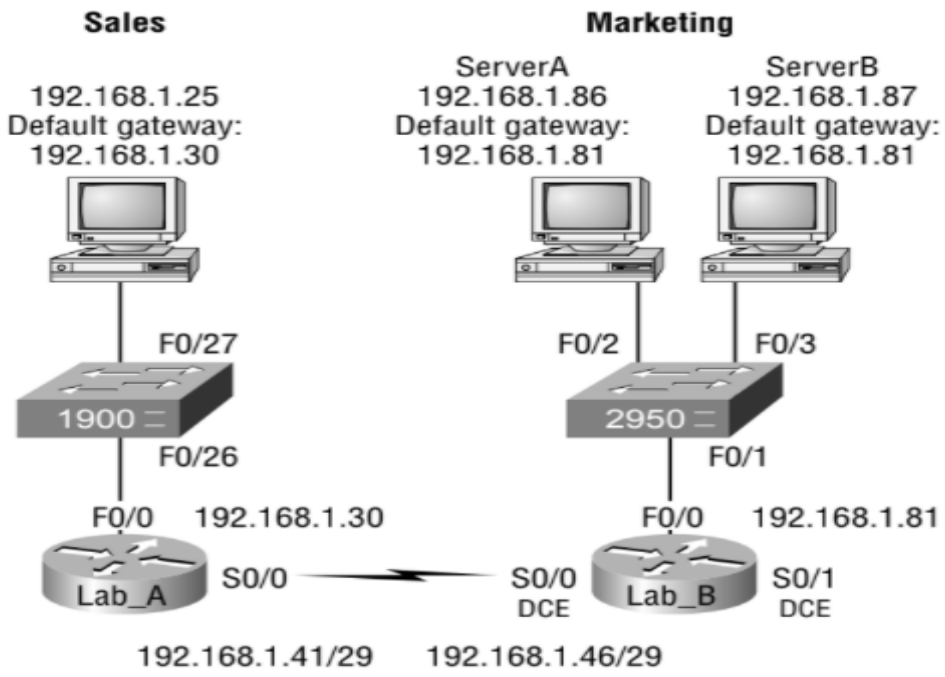
93. One LAN will be able to connect with another LAN. But not do not able to ping. Why?



94. How you will be able to understand that, your ISP has given you internet connection by Statically/DHCP/PPPoE?
95. A user of Sales department calls & tells you that he cannot get to server A in the marketing department. You ask him if he can get to 'Server B' in the marketing department, but he doesn't know because he doesn't have rights to log on to that server. What do you do?



96. A user in the Sales LAN can't get to Server-B. You have the user run through the four basic troubleshooting steps and find that the host can communicate to the local network but not to the remote network. Find & define the IP addressing problem.



97. Give the answer :

You have a class A host of 10.0.0.110/25. It needs to communicate to a host with an IP address of 10.0.0.210/25. Which of the following devices do you need to use in order for these hosts to communicate?

98. Give the answer :

You receive a call from a user that is complaining that they cannot get on the Internet. You have them verify their IP address, mask, and default gateway. The IP address is 10.0.37.144, with a subnet mask of 255.255.254.0. The default gateway is 10.0.38.1. What is the problem?

99. Choose the right option

When configuring the IP settings on a computer on one subnet to ensure it can communicate with a computer on another subnet, which of the following is desirable?

A. Configure the computer with the same default gateway as the other computer.

B. Configure the computer with the same subnet mask as the other computer.

C. Configure the computer with a default gateway that matches the IP address of the router's interface that is attached to the same subnet as the computer.

D. Configure the computer with a subnet mask that matches the IP address of the router's interface that is attached to the same subnet as the computer.

100. Choose the right option

When configuring the IP settings on a computer on one subnet to ensure it can communicate with a computer on another subnet, which of the following is desirable?

A. Configure the computer with the same default gateway as the other computer.

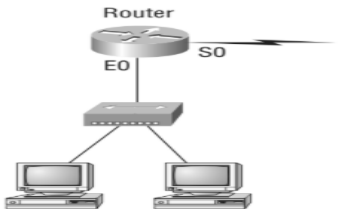
B. Configure the computer with the same subnet mask as the other computer.

C. Configure the computer with a default gateway that matches the IP address of the router's interface that is attached to the same subnet as the computer.

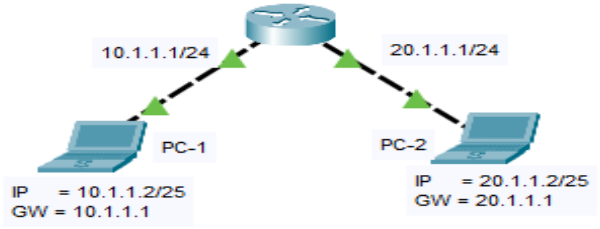
D. Configure the computer with a subnet mask that matches the IP address of the router's interface that is attached to the same subnet as the computer.

101. Give the Answer:

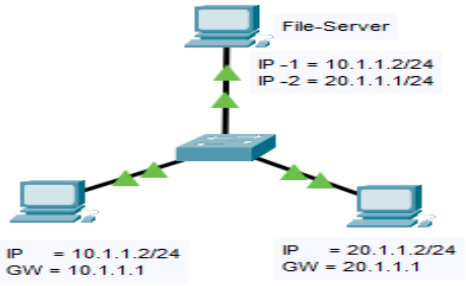
Using the following illustration, what would be the IP address of E0 if you were using the first subnet? The network ID is 192.168.10.0/28, and you need to use the last available IP address in the range. Again, the zero subnet should not be considered valid for this question.



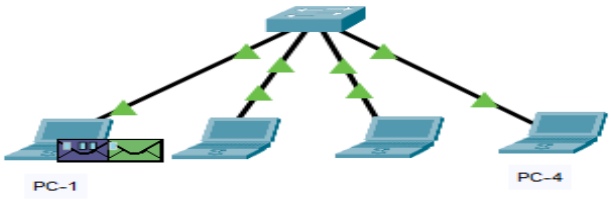
102. Is it possible to get ping PC-1 to PC-2 without using any routing protocol?



103. Is it Possible, where File-Server has only "one" Interface card?

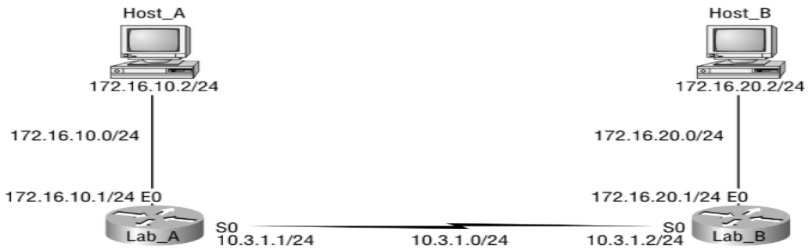


104. Trying to ping PC-1 to PC-4. Which type of 2 packets are shown in the below image. Which packet will deliver first?



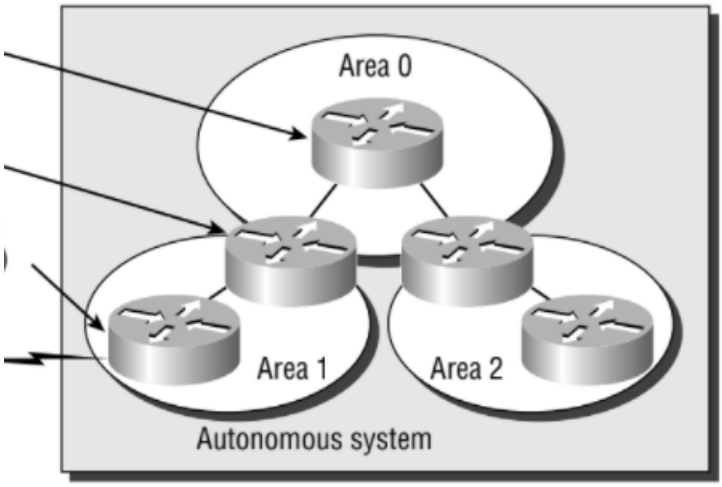
105. Write the difference between RIPv1 vs RIPv2.

106. Below image is not a discontiguous network. True/False?



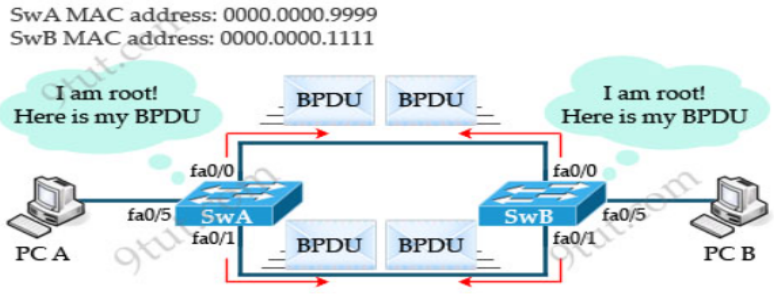
107. What types of table are contained in EIGRP?

108. Mention the router's name. Backbone Router/ ABR / ASBR



109. What is Half Duplex & Full Duplex? Give example of these.

110. Which will be the Root Bridge?



111. What is the default bridge priority value in STP?

112. Write the cost of below links for STP

Link Speed	Cost
10 Gbps	
1 Gbps	
100 Mbps	
10 Mbps	

113. What is IDS & IPS?
114. What is DoS & DDoS attack?
115. What is PoE switch?
116. What is difference between Access Point & Wireless Router?
117. Configure the VTP in a switch.
118. PC-1 will get ping to PC-2. But PC-2 will not getting ping to PC-1. What's may the problem?