CCNA

Introduction about cisco company and its products (network devices)

Tell about cisco offered courses and its salary benefits (ccna ccnp ccie)

Inform about ccna its basic course of networking

Emergence and History of network

What is network?

Need of network or benefits of network

Types of network lan and wan

How to create lan and rule of assigning ip to lan

How to share internet to lan users

Visit www.cisco.com

Create lan, assign ip address mask and gateway

Familiar with ping, ipconfig/all netstat and tracert commands

Eg tracert www.yahoo.com

Ping www.yahoo.com

Visit www.aruljohn.com and do ip address tracking

Introduction of wan

Different types of wan (pstn, isdn, leased line, frame relay, mpls etc)

Tell about router

Explain simple wan using leased line (2 branch communication)

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Explain ip assignment in wan (in point to point network and in multipoint network)

Explain about structure of intranet (private network) Explain about structure of internet (public network) Number system (binary hexa and decimal)

Ping and tracert to public networks in various parts of world

Find out each country along path of tracert using aruljohn.com

Use visual trace route for tracking path to various ip address

Visit www.iana.org

Ip address and mac address

Ipv4 and Class of ip address and www.iana.org

Ip address and Subnet mask

First octet rule

4 rules of ipv4

Private and public ip address

Assignment following ip valid or not

Assignment locate some useful ip address

Using some server applications like telnet server, ftp server, web server in lan.

And sharing of resources in lan.

Router basics

Need of router, connection of router.

Components of router, outside router, inside router.Familiar with Router mode.

Router basic commands – privilege mode commands

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Configuration mode commands

Interface mode command

Line mode command

Verification commands

Interface status with layer 1 and layer 2 problems Router basics and modes of router

Privilege mode command explanations with lab

Configuration mode commands

Interface mode command

Line mode command

Verification commands

Interface status with layer 1 and layer 2 problems

Subnetting slsm class c binary and shortcut method. Subnetting Vlsm

Repeat lab with subnetted ip address

Subnetting class B and A

supper netting and route aggregation

Repeat day 3 and day 4 lab

Repeat lab with subnetted ip address

Managing cisco networks

Password recovery

Backup

Telneting
Name resolution
Cdp
Managing cisco network all labs
Password recovery
Back up
Telneting and resuming
Name resolution
Cdp
Routing – how to build routing table - static routing, dynamic routing and default routing.
Static routing using exit interface
Static routing using next hop address
Administrative distance
Default routing
Roué selection process in a router
Static routing using classc address
Static routing using class a b and c Static routing using slsm
Static routing using vlsm Dynamic routing
Difference between igp and egp Difference between dvrp lsrp and bhrp Explain
Working principle of dvrp with rip

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Configuration of rip in cisco routers

Rip configuration and verification using all class c

Rip with mixed class and verification of timers with show commands and debug commands

Rip with slsm

Do rip with vlsms and observe routing table Rip loop avoidance features

Rip timers Rip v1 disadvantage and explain rip v2

Difference between rip v1 and v2

Difference between classless routing protocol and class full routing protocol

Rip v1 and v2 in vlsms network

Rip v1 and v2 in discontinuous network

Rip v2 lab using vlsms and discontinuous network

Linkstate routing protocol

Working or lsrp with ospf

Router id selection

Configuration of ospf in single area

Ospf in multi area

Multi access network and ospf

Selection of dr and bdr

Ospf with class c in single area

Ospf with mixed class in single area

Ospf in multi area

Ospf in multi access network
Eigrp working principle
Features of eigrp
Configuration of eigrp
Eigrp successor and feasible successor Eigrp variance command
Eigrp manual summarisation
Eigrp in class c network
Eigrp in mixed class environment
Eigrp in vlsm and discontinuous network and no auto-summary command
Eigrp discontinuous network lab
Eigrp vlsm lab
Eigrp variance lab
Eigrp summarisation lab
acl and security
inbound and outbound acl
numbered and named acl
standard and extended acl
ext acl named and numbered
example std acl with numbered std acl and named wildcard mask
std acl numbered and verification
std acl named and verification
std acl numbered and verification with wildcard mask

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std acl named and verification with wildcard
mask named ext acl
numbered ext acl
private ip and network address translation
static nat, dynamic nat and nat overload.
Static nat
Dynamic nat
Port address translation
Protocol stacks and ios osi reference model
Tcp – ip
Packet sniffer lab
arp packetsping packets
analyse telnet web and ftp traffic using wireshark
devices used in lan
layer 2 switching
3 main functions of switch
3 modes of switch
Switch basic configuration and port
security Switch show commands
Switch configuration command
Configure switch using web
Spanning tree protocol working
Portfast and ether channel
Stp lab
Portfast and ether channel lab
Vlan concept need and internal implementation
Vlan Tagging isl and iee802.1q
Inter vlan communication using router
Intervlan communication using l3 switch
Vtp need and modes of vtp
Vlan and intervlan lab
Intervlan communication using l3 switch
Vtp lab
Wan
Types of wan and brief of wan technologies like
Metro Ethernet
VSAT
Cellular 3G / 4G
MPLS
T1 / E1
ISDN
DSL Frame
relay Cable
Ppp and hdlc
Vpn basics

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Ppp and hdlc lab

Implement and troubleshoot PPPoE

Frame relay concept

Virtual circuit pvc and svc

Dlci number features Frame

relay flags and needs

Frame relay encapsulation and lmi type

Frame relay mapping and inverse arp

Frame relay configuration in full mesh and hub and
spoke Frame relay configuration in full mesh network

Frame relay configuration in hub and spoke

network Ipv6

Ipv6 address representation and address types and
ranges Ipv6 address configuration in cisco routers

Ipv6 router configuration

Ipv6 routing protocol rip and static

routing Dhcp working

Dhcp configuration in router

Sdm need and configuration Dhcp

lab Sdm lab

Wlan Wlan

lab IP

Services

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Recognize High availability (FHRP)
VRRP
HSRP
GLBP

Configure and verify
Syslog Utilize Syslog
Output Describe SNMP v2
& v3 Hsrp
Vrrp
Glbp
Syslog

Troubleshooting Routing

Identify and correct common network problems
Utilize net flow data

Troubleshoot and Resolve routing issues
routing is enabled
routing table is correct
correct path selection

Troubleshoot and Resolve OSPF problems
Neighbor Adjacencies

Hello and Dead
timers OSPF area

Interface MTU
Network types
Neighbor states
OSPF topology database
Troubleshoot and Resolve EIGRP problems
neighbor adjacencies
AS number
Load balancing
Split horizon
Troubleshoot and Resolve WAN implementation issues
Serial interfaces
PPP
Frame relay
Monitor Net Flow statistics
Troubleshoot ether channel problems
Troubleshoot and Resolve ACL issues Statistics
Permitted networks
Direction
Interface
Troubleshooting Switching
Troubleshoot and Resolve VLAN problems
identify that VLANs are configured
port membership correct
IP address configured
Troubleshoot and Resolve trunking problems on Cisco switches
correct trunk states
correct encapsulation configured
correct vlans allowed

Troubleshoot and Resolve Layer 1
problems Framing
CRC
Runts
Giants
Dropped packets
Late collision
Input / Output errors

Troubleshoot and Resolve Spanning Tree operation issues
root switch
priority
mode is correct
port states

Troubleshoot and Resolve inter VLAN routing problems
Connectivity
Encapsulation
Subnet
Native VLAN
Port mode trunk status

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