**NETWORKING : PRACTICAL**

1. If you are asked to establish a network for 5 units. Each unit distance is 1 km with Div HQ IT Cell server room within the 5 kms. List out what are the components, devices, cable and other items are reqd to establish the well planned network?

2. Draw a neat diagram above question?

3. Your Bde Sig Coy has allotted the IP address is 131.1.0.xxx/28 and gave the gateway is 131.1.0.225 and DNS is 131.1.0.5 and 6. Now you have to configure at your end in firewall WAN and LAN ports IP address and also allotted the 10 ip address to all computers with Full IP address, CSM, Gateway and DNS and ADNS?

4. How to configure Layer 3 switch and also do a MAC Binding with IP Address?

5. How to configure V LAN for4 each subnet by using VLSM 192.168.10.xxx/27, 28, 29 and 30 and also find out CSM and Gateway of each VLAN?

6 Your are working in NSC at Div Tps wksp. Already your wksp, 4 x Bde Wksp and Bn HQ are in same network within 2 kms. Now your draw the existing layout and now your requested to lay down new redundancy line in separate way to connect in Ring topology.

7. Make 10 UTP Patch card in 568 b standard and also 2 x cross over cable and connect one to one pc directly. 2 x IO box with insert in 568b standard by using of Kingston in 568 b standard.

8. You IP address is 192.168.10.xxx/26.  
 (a) What is th CSM?  
 (b) How Many host is possible is each sub network?  
 (c) How many sub NW is possible?  
 (d) NW ID and BC ID of 3rd SUB Network?  
 (e) Valid IP range of 4th SUB NW?

9. What are the services are required to install exchange server and also how to manage the storage box?

10. How to configure the IIS and how to publish and also host in your DNS?

11. How to configure DHCP Server and explain on DRONA procedure.

Answer 1.

(a). 01 x Core Switch. (Minimum 16 Port)  
 (b) 05 x Distribution Switch. (Minimum 8 Port)  
 c 18 x Acess Switch (Minimum 8 port)  
 4. 12 x SFP Module  
 5. 24 x SC to LC FO Patch card.  
 6. LIU unit – 24.   
 7. 12 U Rack – 01  
 8. 9 U Rack – 23  
 9. 1 KVA UPS – 23  
 10. 10 KVA Ups for server Room.  
 11. FO Cable 7 Km (2 Km for loop back purpose for every 500 meter)  
 12. UTP cable 6 e – 10 bundle.  
 13. IO Box – 120  
 14. Kingston – 120  
 15. UTP Patch card 1 meter – 120  
 16. FO Torch  
 17. Crimping tool – 2  
 18. RJ 45 - 500  
 19. UTP Tester Meter  
 20. Insertion Tool.

Answer 3.  
 (a) Firewall WAN port IP Adress : 131.1.0.226  
 (b) Firewall LAN Port IP Address : 131.1.0.227  
 (c) 10 IP Address are 131.1.0.228 to 131.1.0.237  
 (d) CSM – 255.255.255.240  
 (e) Gateway – 131.1.0.225  
 (f) DNS – 131.1.0.5  
 (g) ADNS – 131.1.0.6

Answer 5.

1. 192.168.10.xx/27 CSM- 255.255.255.224 Gateway- 192.168.10.1  
    192.168.10.xx/28 CSM- 255.255.255.240 Gateway- 192.168.10.33

192.168.10.xx/29 CSM- 255.255.255.248 Gateway- 192.168.10.49

192.168.10.xx/30 CSM- 255.255.255.252 Gateway- 192.168.10.57