QUESTIONS

1. What is Networking?
2. List types of network and briefly explain them.
3. (i) What is a Topology?
   (ii) List and explain types of topology
4. At what layers of the OSI model do Wide Area Network operate in. (Give reasons for your answer)
5. The MAC address for your PC NIC is: C9-3F-32-B4-DC-19. What is the address of the OUI portion of this NIC card, expressed as a binary number?

6. Match the terms with the appropriate layer. Some options are not used.

   Routing, switching, bits, packets, windowing, UDP, IP addressing, Mac addressing, segments

   Transport Layer   **Network Layer**

7. Calculate for a network that contains the following

   (i) 60 subnets and 1000 hosts

   (ii) 8 subnets and 30 hosts

   (iii) 16 subnets and 4014 hosts

   (iv) 4 subnets and 16382 hosts

8. Briefly explain classful and classless domain and give two examples of each.

9. Convert these Hexadecimal numbers to binary numbers

   (i) 01A2.0482.FE12

(ii)   02FE. 0AD8. BC42

(iii)   0414. ED32. 50AF

(iv)   2736. 2BA7.4EA2

10. (i)   What is a routing matrix?

(ii)   List type of routing matrix and explain

11. Explains the following

(i)   Static routes

(ii)   Dynamic routes

(iii) Router or a stack

12.   As an administrator, design a network running RIP to connect three routers, with each having a switch connected to five systems

13. (i)   List the similarities and differences between switches and bridges.

(ii) Name and explain briefly the methods of switching

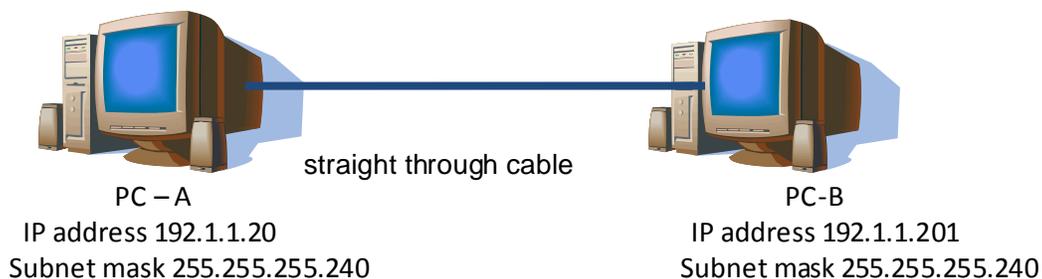**14.** What do you understand following?

(i)   STP

(ii)   VLAN

(iii) VLSM

(iv) ARP

15. A network administrator is connecting PC hosts A and B directly through their Ethernet interfaces as shown in the graphic. Pingattempts between the hosts are unsuccessful. What can be done to provideconnectivity between the hosts?

straight through cable

PC – A
IP address 192.1.1.20
Subnet mask 255.255.255.240

PC-B
IP address 192.1.1.201
Subnet mask 255.255.255.240

16.   A receiving host has failed to receive all of the segments that it should acknowledge. What can

the host do to improve the reliability of this communication session?

17. You are unable to telnet to a router at address 203.125.12.1 from a workstation withthe IP address 203.125.12.23. You suspect that there is a problem with your protocolstack. Which of the following actions is most likely to confirm your diagnosis?

18. You work as a network engineer in a company and users have noticedextremelyslow network performance, intermittent connectivity, and connectionloss. After entering the show interfaces command, you notice that the Ethernetinterface is configured as 100 Mbps full-duplex and that there is evidence of latecollisions. What could be the cause of this problem?

19. You are working as a network technician in a University, when you get a call from the Engineering Faculty. They're complaining that they're receivingobsolete information from the Business Faculty's network traffic broadcasts.What can you do to contain the BusinessFaculty's broadcast while still keeping itconnected to the internet and the enterprise services of the University?

20. A Certkiller router learns two routes to a remote network, one route via OSPF and one route via RIPv2. The network administrator wants the router to install the route learned via RIPv2 into its routing table. What should the network administrator configure to ensure that the router will use the route learned via RIPv2?