



Dutch Bangla Bank | Exam Taker :BUET
Post : Assistant Network/Hardware Engineer
Time :1:30 Hours | Date :05/03/19.
Marks distribution :20(non_dept) +65(dept.) = 85

1. What is state full and stateless firewall :

Solution:

Stateless Firewall works by treating each packet as an isolated unit, Stateless Firewall filters based on header information in packet like Source IP, Destination IP, port number etc.

Stateful firewalls works by maintaining context about active sessions and use “state information” to speed packet processing. Infact Stateful Firewalls use the concept of state table where it Stores the state of legitimate connections. Stateful Firewalls filter packets by matching to valid states in the state table

2. What is RAID and RAID level ? raid0, raid1 , raid5

3. Write 3 private ip address range:

a)10.0.0.0---10.255.255.255 b)172.16.0.0---172.31.255.255c)192.168.0.0-----192.168.255.255

2. Write down the online and offline Ups .

Solution:

Online UPS	Offline UPS
An online UPS is one which supplies the AC power through rectifier and inverter combination circuit in case of power availability as well as in power outage	An offline UPS is one which supplies the AC mains power directly to the load in case of power availability and whenever there is power outage it supplies power to load through backup battery.
Heat dissipation is more in comparison to offline ups because online ups is ON continuously.	Heat dissipation is low because offline ups is switched ON only in case of power outage.
Time required to switch the path during power outage is termed as transfer time. As the transfer switch in case of online ups is always ON thus, transfer time is zero.	Transfer time is about 5 ms
Online UPS is immune to external distortions such as surges, spikes and power failure.	Offline UPS is not immune to external distortion.
It require more components and thus it is complex to design.	It require less components and thus simpler in design.

5. Difference between TCP and UDP

TCP	UDP
TCP establishes connection between computers before transmission of data .	UDP sends the data directly to the destination computer without checking whether the system is ready or not .
TCP is connection oriented	Connection less
Slower	Faster



Heavy weight	Light weight
Use FTP ,HTTP,SMTP,BGP etc	Use DNS,DHCP,TFTP,SNMP etc.

6. Find subnet and host number of 255.255.240.0

Solution:

Here class C .we know that 240 = 11110000
 So the subnet mask = 255.255.11110000.00000000
 Total 1 = 4 total 0 = 12
 So subnet = 2^4 ,host = 2^12 -2;

7.output of the following code.

```
#include<stdio.h>
int main() {
int a =3 , b= 10 ;
if(a>b)
printf("A");
else
printf("B");
return 0;
}
output : B
```

8. Output of the following code :

```
Solution:
#include<stdio.h>
int main() {
int i = 0 ;
int n = 0;
while(i!=n)
{
if(i==3){
continue ;
printf("%d",i);
}
printf("%d",i);
i++;
return 0;
}}
Output : nai
```

9 Write down the following blanks

Solution:

- a) Ip address converted into physical address ARP .
- b) Names are converted into domain name DNS .
- c)Mail transferred between SMTCP protocol .
- d) Data link layer is responsible for convert ip address into mac address. e) HTTP SERVICE PROVIDES USING WHICH PROTOCOL tcp PROTOCOL ?

10 SQL query to find avg salary of all is greater than the salary of each department .Employee (emp_id,emp_name,salary,city,dept_name) with some condition

Solution:

Select avg(salary) from Employee where avg(salary)>salary group by Dept_name ;