Study of Networking Device

Q1. Identify the network address & subnet mask for the ip address 192.168.1.0
Given ip address is 192.168.1.0
The subnet mask is 255.255.255.0 as it is belong to class C
In Binary Form:-
11111111 .11111111 .11111111.00000000 In this the 1st 24 bits represent the host part.

Q2. Create 4 Subnets:-
To create 4 subnets we need to binary two bits from the host part.
2^2=4
So the new subnet mask is 255.255.255.192
Binary Form:-
11111111.11111111.11111111.11000000
so 26 bits for the network part 6 bits for the host part. Total no. of subnet 4.
[combining 2 or more subnets will give us the Supernet.]
Total no. Of useable ip address in each subnet is 64- -2 because 1 address is for network and 1 for broadcast, so subtracting them. 62 IP addresses are usable.
CIDR format:-classless InterDomain Representation.
New Subnet Mask:- 255.255.255.192/126
The 1st subnet mask is 192.168.1.0/126
The 2nd subnet mask is 192.168.1.64/126
Subnet 1=192.168.1.0 ---> Network address
Useable host address 192.168.1.62/126
Broadcast address 192.168.1.63/26

Subnet 2 192.168.1.64
1st host address 192.168.1.65
Last host address 192.168.1.126/26
Broadcast address 192.168.1.127
Subnet 3 192.168.1.128
Last address is 192.168.1.190
15th address is 192.168.1.129
Subnet 4 192.168.1.192
Last address is 192.168.1.254
Broadcast address 192.168.1.255

Q3. A network address 192.168.1.0/24 creates 3 subnets with subnet 1 corrosting if so subnet 2 with 20, and subnet 3 with 10.

(Since the no. The host bit is determined by the ip address. So ip address formula to calculate no. Of bits required to satisfy each subnet ip address is 2^n/ no. of ip address required.
Where n is the no. of bits and +2 represent n|6)
Subnet 1 of 50 ip address
Ex:- 2^6 = 64 with 62 usable ip addresses we need 6 host bits.

Subnet mask is 255.255.255.192/26
2^5 = 32 ,30 useable
Subnet mask is 255.255.255.224|27
2^4=16
Subnet   255.255.255.140|28
Subnet 1

Subnet mask:	255.255.255.192|26
Network address	192.168.1.0|26
Host address	192.168.1.1|26
Last host address	192.168.1.50|26
Useable ip address	62//
Broadcast	192.168.1.63|26