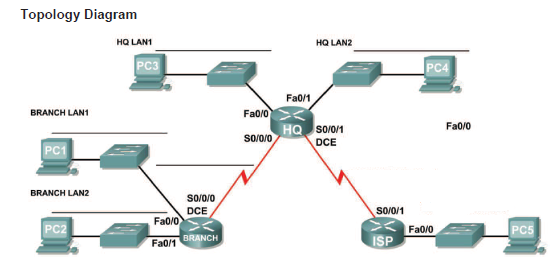
**Advanced Subnetting/Configuration Challenge**



**Part 1**

How many networks are displayed above: \_\_\_\_

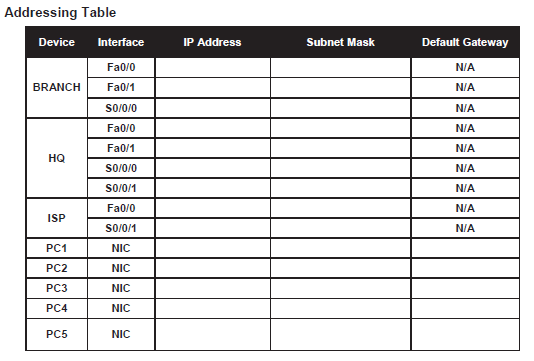
**Part 2**

Using VLSM and the address space **10.20.1.0** carry out a subnetting exercise based on the following requirements:

* HQ LAN 1 requires 30 hosts
* HQ LAN 2 requires 50 hosts
* BRANCH LAN 1 requires 12 hosts
* BRANCH LAN 2 requires 31 hosts
* The LAN attached to the ISP router needs 100 hosts
* The link between HQ and BRANCH will require an IP address at each end.
* The link between HQ and ISP will require an IP address at each end.

Allocate the first available host of each subnet to the router interface and the last available host to the PC.

Detail your IP addresses on the table on the next page.



When you have completed the table above please let your lecturer check it.

**Part 3 – Perform Basic Router Configuration**

Perform basic configuration of the BRANCH, HQ, and ISP routers according to the following guidelines:

1. Configure the router hostnames as per diagram.

2. Configure an EXEC mode password of **cisco**

3. Configure a message-of-the-day banner saying “Welcome to the (*ROUTER NAME* router. No unauthorised access.)

4. Configure a password for console connections of **class**

5. Configure a password for VTY connections of **telnet**

**Part 4 - Configure and Activate Serial and Ethernet Addresses**

Configure the interface addresses of each router and the host addresses of each PC as per you address table.

**Part 5 – Configure RIPv2 Routing on the BRANCH Router**

Configure RIPv2 on each router

**Part 6 – Verify the Configurations**

Answer the following questions to verify that the network is operating as expected:

From PC1, is it possible to ping PC3? \_\_\_\_\_\_\_\_\_\_

From PC1, is it possible to ping the PC5? \_\_\_\_\_\_\_\_\_\_

From PC4, is it possible to ping the PC5? \_\_\_\_\_\_\_\_\_\_

The answer to the above questions should be **yes**. If any of the above pings failed, check your physical connections and configurations.