Skill Test 2 Name:_____

SKILL TEST 2

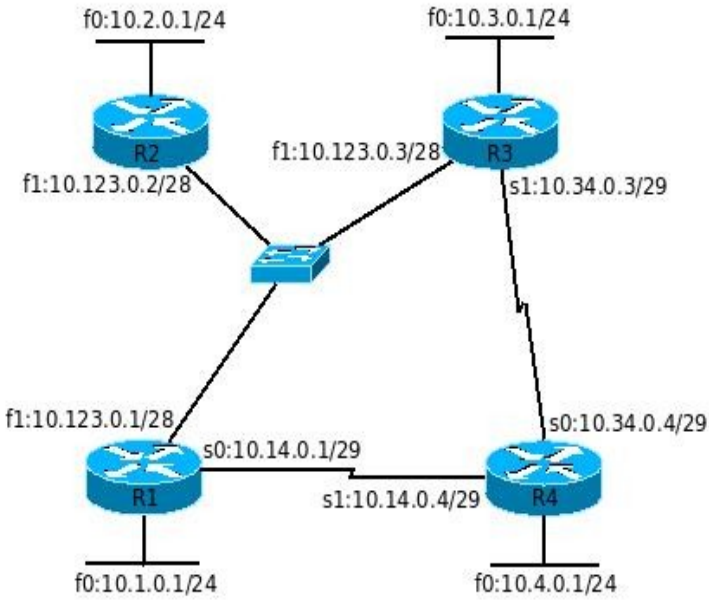
Reference commands:

```
no ip domain-lookup
 logg sync
 do sh ip route
copy run start
 do sh ip int br
 exec-timeout 0 0
 clock rate 64000
 ip ospf cost
 ip ospf pri <n>
 band <k>
 ip ospf hello 3
 ip ospf dead 10
router ospf 1
 router-id x.x.x.x
 net 0.0.0.0 255.255.255.255 area 0
 default-information originate
clear ip ospf process
sh ip ospf nei
sh ip ospf int
sh ip prot
```

f0==f0/0
f1==f0/1
s0==s0/0/0
s1==s0/0/1

Loopback0
R1:1.1.1.1/32
R2:2.2.2.2/32
R3:3.3.3.3/32
R4:4.4.4.4/32

PC LAN2
10.x.0.10/24



1. (5%) Using GNS3 to construct the network topology as shown in the diagram.

2. (35%) Use console port to configure. On each router, configure the following:
   2-1 host name as shown and privileged password as cisco (5 points)
   2-2 interface address as shown in the diagram (LAN, WAN and Loopback) (15 points)
   2-3 disable auto DNS request (2 points)
   2-4 telnet password cisco (2 points)
   2-5 console message synchronization (2 points)
   2-6 console session no time out; telnet session no time out (4 points)
   2-7 Use **`show ip int br`** and **`show cdp nei`** to check your result. (5 points)

3. (5%) On each router, configure OSPF protocol. Add all interfaces, including loopback 0, into the routing backbone **by one line**. **`show ip route`** to check the result.
   At this point, you should be able to ping everywhere from all interfaces. **Pause and call the proctor.**

4. (20%) Click on Stop icon then Start icon to restart all devices. Perform the following commands on all routers and fill in the blanks. **`show ip prot`**

R1 router-id? _____ R2 router-id? _____
R3 router-id? _____ R4 router-id? _____

`show ip ospf nei`

R1: DR:_____ BDR:_____
R2: DR:_____ BDR:_____
R3: DR:_____ BDR:_____
R4: DR:_____ BDR:_____

5. (5%) Use fa0/0 ip address as the router ID of R1. Use **`clear ip ospf process`** to implement the change. Check your router-id again.

6. (5%) On the serial link between R3 and R4 change the hello interval to **3** seconds and dead interval to **10** seconds.

7. (5%) Make R1 DR, R2 BDR, and R3 **non-candidate** by changing their priorities. Save your configurations and restart all devices.
   Check your result by **`sh ip ospf nei`** and **`sh ip ospf int`**.

8. (5%) On R4, add a static route **`ip route 0.0.0.0 0.0.0.0 lo0`** and enter **`default-information originate`** under router mode.
   On R1, R2 and R3, enter **`show ip route`** to check the result.

9. (5%) Change the bandwidth of R1 s0/0/0 to 768Kbps.
   On R2, check its routing table and **`trace`** to 10.4.0.1.

10. (5%) Change the cost of R3 s0/0/1 to 390.
    On R2, check its routing table and **`trace`** to 10.4.0.1.

11. (5%) On R2, trace to 4.4.4.4.
    Remove R4's loopback0. On R2, trace to 4.4.4.4 again.
    Compare the two results.