

**End Semester Examinations - 2015-16 Even Semester - May 2016**

**14CS3062 Routing and Switching Techniques**

**Set B**

**Time : 3 hrs**  
**Total Marks: 100**

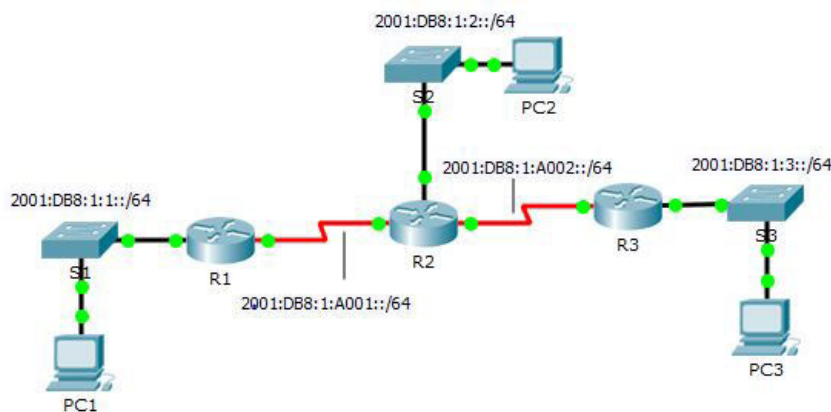
1. Compact the following IPV6 address
- a
- i. 3FFE:1944:0100:000A:0000:00BC:2500:0D0B
  - ii. FF02:0000:0000:0000:0000:0000:0000:0005
  - iii. 2001:0D02:0000:0000:0014:0000:0000:0095
- Specify the type of following IPV6 address
- i. ::/128
- b
- ii. ::1/128
  - iii. FF00::/8
  - iv. FE80::/10
- c Explain in detail about the control protocol used in IPV6
- d The MAC address of a user's computer is given as 0000:0B0A:2D51. Calculate the IPv6 address for the user in the network.

**OR**

2. a. Differentiate between static and dynamic routing
- b. What is the need of floating static routes?
- c. What is the configuration command used to set up static routes in a router?
- d. What are the pros and cons of configuring static routes?
3. a. What is the need of sequence number when broadcasting Link State updates?
- b. What is the purpose of topological database?
- c. What is an autonomous system?
- d. How do areas benefit a link state network?
- e. Explain how an SPF algorithm works.

**OR**

4. Configure RIPng for the following topology

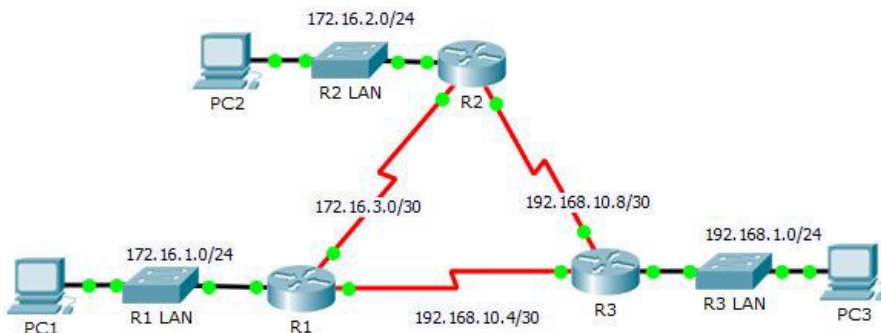


Device	Interface	IPv6 Address/Prefix
R1	G0/0	2001:DB8:1:1::1/64
	S0/0/0	2001:DB8:1:A001::1/64
R2	G0/0	2001:DB8:1:2::1/64
	S0/0/0	2001:DB8:1:A001::2/64
	S0/0/1	2001:DB8:1:A002::1/64
R3	G0/0	2001:DB8:1:3::1/64
	S0/0/1	2001:DB8:1:A002::2/64

5. a. What is the significance of area 0? 4
- b. What is the role of designated routers and Backup designated routers in OSPF? 6
- c. What are the five types of OSPF networks? 5
- d. How is authentication enforced in OSPF? 5

**OR**

6. Implement basic EIGRP configurations including network commands, passive interfaces and disabling automatic summarization in the following topology



Device	Interface	IP Address	Subnet Mask	Default Gateway
R1	G0/0	172.16.1.1	255.255.255.0	N/A
	S0/0/0	172.16.3.1	255.255.255.252	N/A
	S0/0/1	192.168.10.5	255.255.255.252	N/A
R2	G0/0	172.16.2.1	255.255.255.0	N/A
	S0/0/0	172.16.3.2	255.255.255.252	N/A
	S0/0/1	192.168.10.9	255.255.255.252	N/A
R3	G0/0	192.168.1.1	255.255.255.0	N/A
	S0/0/0	192.168.10.6	255.255.255.252	N/A
	S0/0/1	192.168.10.10	255.255.255.252	N/A
PC1	NIC	172.16.1.10	255.255.255.0	172.16.1.1
PC2	NIC	172.16.2.10	255.255.255.0	172.16.2.1
PC3	NIC	192.168.1.10	255.255.255.0	192.168.1.1

7. a. What are the benefits of Link aggregation? 5
- b. What are the issues involved in Link aggregation? 5
- c. Explain the procedure to trim the Spanning Tree in a switch. 10

**OR**

8. Explain the operation of Spanning Tree Protocol
9. a. Explain in detail the functioning of SNMP Protocol 10
- b. How do SNMP help to monitor the working of switch in Local area Network 10