



Republic of Rwanda
City of Kigali



Module/Competence Detail		Trainee's Detail	
SECTOR:	ICT	Names:	
SUB-SECTOR	Networking	Class:	
Qualification Title:	TVET Certificate IV	Date:	
MODULE (Code & Name):	NEWPR401 : ROUTING	Trainer's Detail	
Competence Title:	Perform routing	Names:	
School:		DECISION / 100Marks
		Signature	

End of Second semester comprehensive assessment

INSTRUCTION TO CANDIDATES:

This Exam has three Sections: A, B AND C

- ◆ **Answer in provided answers space for each questions**
- ◆ **Section A:** Attempt All Questions in section A. **/55marks**
- ◆ **Section B:** Attempt All Questions in section B. **/30marks**
- ◆ **Section C:** Choose one (1) Question in Section C. **/15marks**



SECTION A: Attempt All Questions in section A. /55marks

Q1. Circle the letter corresponding to correct answers **[10 marks]**

- I. **What is the function of a router**
 - A. converting the data from one format to another
 - B. Forward the packet to the up links
 - C. error detection in data
 - D. None of the above
- II. **Routing tables of a router keeps track of**
 - A. MAC Address Assignments
 - B. Port Assignments to network devices
 - C. Distribute IP address to network devices
 - D. Routes to use for forwarding data to its destination
- III. **What is the correct syntax of a static route?**
 - A. ip route 209.165.200.228 255.255.255.248 serial 0/0/0
 - B. ip route 0.0.0.0 0.0.0.0 serial 0/0/0
 - C. ip route 172.16.0.0 255.248.0.0 10.0.0.1
 - D. ip route 209.165.200.0 255.255.255.248 10.0.0.1
- IV. **What is the ideal mask (Subnet Mask) to use on point-to-point serial links**
 - A. 255.255.255.1
 - B. 255.255.255.0
 - C. 255.255.255.254
 - D. 255.255.255.255
- V. **What are two requirements for an HSRP group? (Choose two)**
 - A. exactly one active router
 - B. one standby router
 - C. one or more backup virtual routers
 - D. exactly one standby active router
 - E. exactly one backup virtual router

Q2. What is the advantage of HSRP?

[5 Marks]

Q3. What type of cable is used to manage a router or switch using console port? **[3 Marks]**



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Q4. Answer by true(**T**) or false(**F**)

[3 Marks]

1. A site survey is the examination of a location or spot in order to obtain data or information
2. A site survey can be performed at any time, but the goals and value of a survey will vary depending on when it was conducted. An active survey allows the user to map an existing deployment's effective network coverage
3. A passive survey allows the user to understand all the AP and channel usage at a location so that you can adjust the network to perform optimally.

Q5. Show the difference between Authentication, Confidentiality and auditing.
[6 Marks]

Q6. Choose three (3) private IP Addresses from the following: **[6 Marks]**

- | | |
|------------------|----------------|
| a. 10.1.1.1 | d. 172.16.4.4 |
| b. 172.32.5.2 | e. 192.168.5.5 |
| c. 192.167.10.10 | f. 224.6.6.6 |

Q7. Give and explain different types of router memory. **[8marks]**

Q8. Explain the following terms and give one example for each **[6marks]**

1. Unicast
2. Broadcast
3. Multicast

Q9. What the following code identify when show ip route command used? **[4 marks]**

- i. O
- ii. R
- iii. S
- iv. D

Q10. What are the four main function of a router **[4 Marks]**



SECTION B: Attempt All Questions in section B. /30marks

Q10.

A. List routing protocol and theirs full word **[7marks]**

B. In Routing configuration we count how many modes of routing configuration? **[3marks]**

Q11 .

A. Provide two examples of network designing tools.**[4marks]**

B. State three network management tools **[6marks]**

Q12. Look at this IP Address 192.168.10.0/25 and solve the following questions: **[10 marks]**

1. To which class of IP Address does the above IP Address and its Default Mask belong to?
2. How many subnets found in the above network?
3. How many valid hosts can this network accommodate?
4. Calculate the First valid host and Last valid host for each subnet and their broadcast.

SECTION C: Choose one (1) Question in Section C /15marks

Q13. Given the following subnet mask 255.255.255.128 (/25), Answer the following questions

- A. How many subnets?
- B. How many hosts per subnet?
- C. What are the valid hosts?
- D. How many valid subnet?
- E. E. Identify first host and broadcast for each subnet.

Q14. Design a network comprise of two router ,each router with switch and each switch with one PC Label network ID ,interfaces and host ID. After that write down each needed Cisco command to be used by configuring RIPV₁ so that we assure packet routing from one router to another.