

**UNIVERSITY COLLEGE TATI (UCTATI)****FINAL EXAMINATION QUESTION BOOKLET**

COURSE CODE	: BNS 2033
COURSE	: CONNECTING NETWORKS
SEMESTER/SESSION	: 2-2022/2023
DURATION	: 3 HOURS

Instructions:

1. This booklet contains 5 questions. Answer ALL questions.
3. All answers should be written in answer booklet.
4. Write legibly and draw sketches wherever required.
5. If in doubt, raise your hands and ask the invigilator.

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO

THIS BOOKLET CONTAINS 6 PRINTED PAGES INCLUDING COVER PAGE

QUESTION 1

- a) Explain **FOUR (4)** modules in the enterprise architecture in modular network design. (8 marks)
- b) Compare **THREE (3)** features between Circuit Switching and Packet Switching. Give **ONE (1)** example of each technology. (8 marks)
- c) List **FOUR (4)** information that given by DHCP Server to the client. (4 marks)
- d) Explain **TWO (2)** methods of address allocation used by DHCPv4 server. (4 marks)

QUESTION 2

- a) Name **FOUR (4)** PPP configuration options. (4 marks)
- b) Describe **THREE (3)** phases in establishing PPP session. (6 marks)
- c) Refer to Figure 1 (assume basic configurations on topology's devices are completed). Configure PPP configuration with PAP authentication on router Branch1 with username *UcTATI* and password *NetA@min* (5 marks)

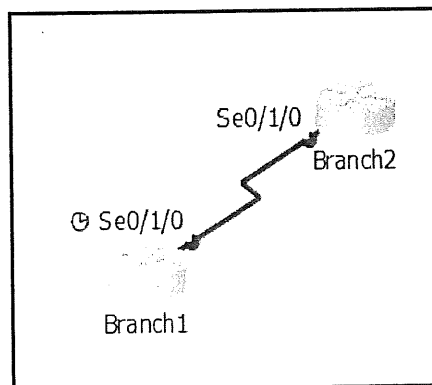


Figure 1

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- d) Compare **FOUR (4)** features between 802.11 Wireless LAN and 802.3 Ethernet LANs respectively. (8 marks)

QUESTION 3

- a) Give **TWO (2)** types of Network Address Translation (NAT). (2 marks)
- b) Figure 2 show Iman Digital office network topology. An ISP has allocated the public IP address space of 209.165.200.224/27 to a company. This provides the company with 30 public IP addresses. The addresses, 209.165.200.225 to 209.165.200.241, are for static allocation and 209.165.200.242 to 209.165.200.254 are for dynamic allocation (Port Address Translation). A static route is used from the ISP to the gateway router, and a default route is used from the gateway to the ISP router. The ISP connection to the Internet is simulated by a loopback address on the ISP router. Based figure 2 and table 1, answer all questions below.

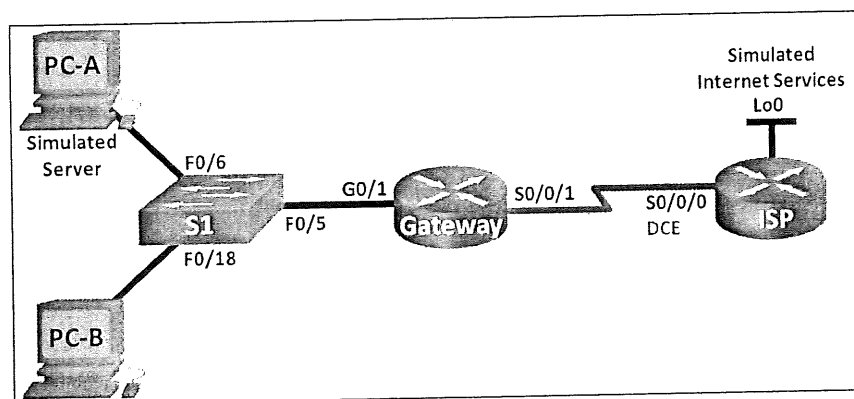


Figure 2

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Table 1

Device	Interface	IP Address	Subnet Mask	Default Gateway
Gateway	G0/1	192.168.1.1	255.255.255.0	N/A
	S0/0/1	209.165.201.18	255.255.255.252	N/A
ISP	S0/0/0 (DCE)	209.165.201.17	255.255.255.252	N/A
	Lo0	192.31.7.1	255.255.255.255	N/A
PC-A (Simulated Server)	NIC	192.168.1.20	255.255.255.0	192.168.1.1
PC-B	NIC	192.168.1.21	255.255.255.0	192.168.1.1

- i. Configure static route from ISP to Gateway router. (2 marks)
 - ii. Create default route from Gateway to ISP router. (1 marks)
 - iii. Configure complete command of Port Address Translation (PAT) on Gateway router. (10 marks)
- c) Describe **TWO (2)** advantages of using WiFi 6 compared to WiFi 5. (4 marks)

QUESTION 4

- a) Describe **TWO (2)** advantages of teleworking on government. (4 marks)
- b) Describe **TWO (2)** disadvantages of teleworking on employer. (4 marks)
- c) List **TWO (2)** types SNMP community strings. (2 marks)
- d) Most organizations use NetFlow for some or all of the following key data collection. Describe the purposes of NetFlow accordingly. (6 marks)

QUESTION 5

- a) Identify **TWO (2)** primary methods for deploying remote access VPN. (2 marks)
- b) Based on Figure 3, write configuration command to create GRE tunnel on Router 1. (5 marks)

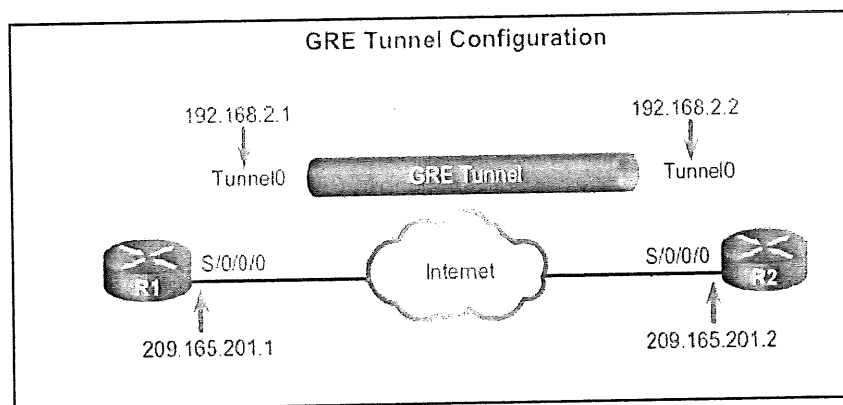


Figure 3

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c) How the IPsec is securing over VPN? (8 marks)

d) Home user typically interconnects wireless devices using a small integrated wireless router. Identify **THREE (3)** functions of wireless home router.

(3 marks)

-----End of questions-----