

**UNIVERSITY COLLEGE TATI (UCTATI)**

FINAL EXAMINATION QUESTION BOOKLET	
COURSE CODE	: BNS 2033
COURSE	: CONNECTING NETWORKS
SEMESTER/SESSION	: 1-2023/2024
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 5 PRINTED PAGES INCLUDING COVER PAGE

CONNECTING NETWORKS (BNS 2033)

QUESTION 1

- a) Explain the structured engineering principles for network design. (8 marks)
- b) Compare private WAN and public WAN infrastructure. Provide **ONE (1)** of example. (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 *B1* and password *cisco1234*. (5 marks)

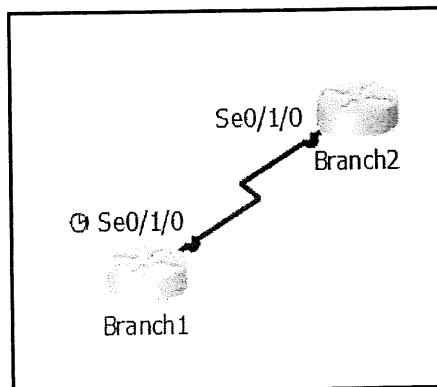


Figure 1

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

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QUESTION 3

- a) List **TWO (2)** types of Network Address Translation (NAT) for IPv4. (2 marks)
- b) Refer to Figure 2. Determine the correct IP address according to NAT process from source to destination on item i to viii. (8 marks)

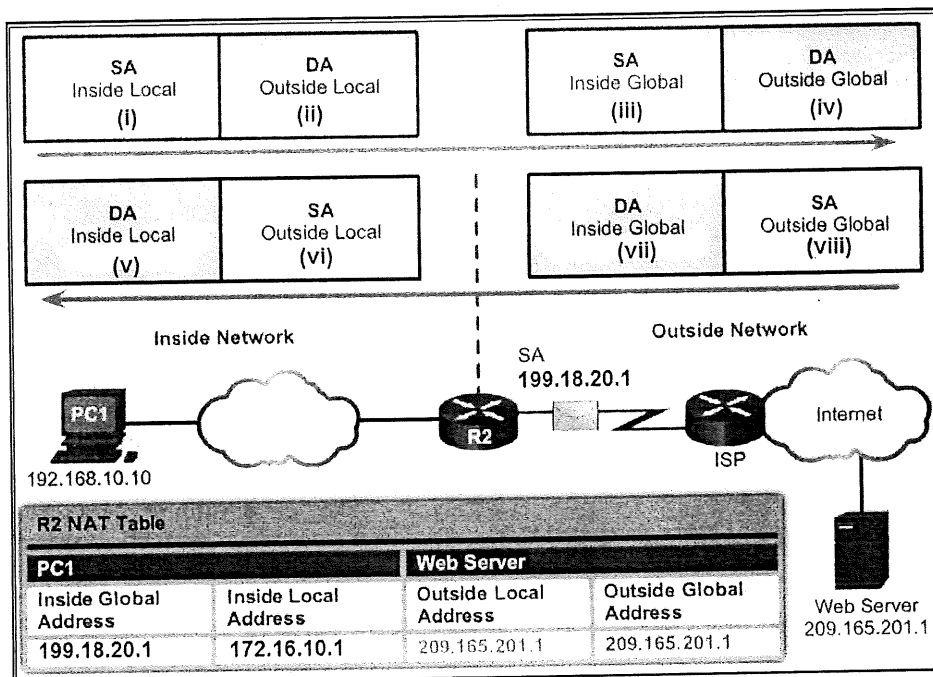


Figure 2

CONNECTING NETWORKS (BNS 2033)

- c) Refer to Figure 3 (assume basic configurations on topology's devices are completed). Write static NAT configuration on *Router*, between *WebServer* and inside global address. (5 marks)

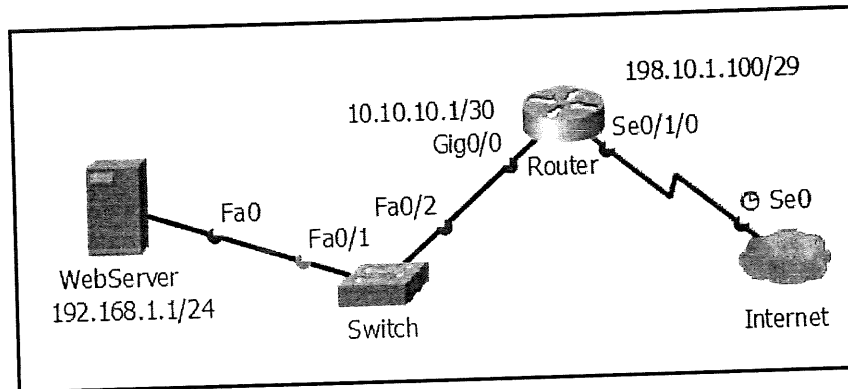


Figure 3

- d) Describe **TWO (2)** types of wireless antenna used by Cisco Aironet APs. (4 marks)

QUESTION 4

- a) Describe **TWO (2)** advantages of teleworking on employee. (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 4, write configuration command to create GRE tunnel on Router 1. (5 marks)

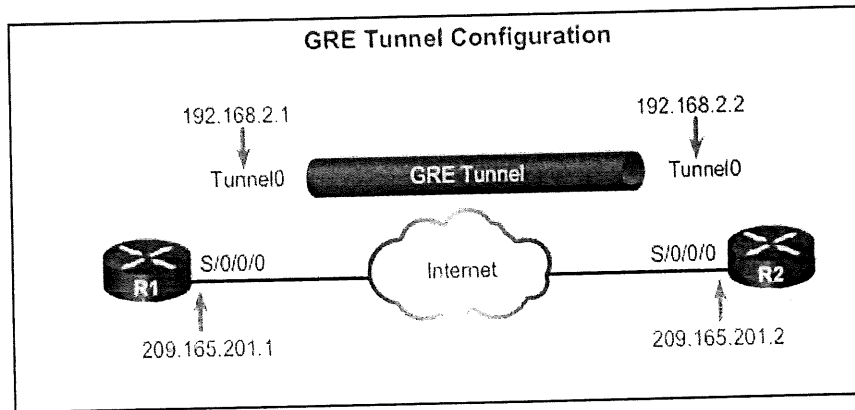


Figure 4

- 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 question-----

