



Library
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BRAINWARE UNIVERSITY

Term End Examination 2024-2025
Programme – B.Sc.(ANCS)-Hons-2023
Course Name – Switching and Routing
Course Code - BNC37107 (T)
(Semester III)

Full Marks : 40

Time : 2:0 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 10=10

1. Choose the correct alternative from the following :

- (i) Identify what "T" in 1000BASE-T stands for.
 - a) Twisted-pair
 - b) Thick coaxial
 - c) Thin coaxial
 - d) Triaxial
- (ii) In Ethernet networking, what does duplex refer to?
 - a) The type of cable used for connections
 - b) The speed of data transmission
 - c) The ability to send and receive data simultaneously
 - d) The type of network topology used
- (iii) Determine the work for which the Core Layer in the Cisco Hierarchical Model is responsible.
 - a) Providing access to end devices and controlling data flow
 - b) Aggregating traffic from distribution switches and connecting to end devices
 - c) High-speed switching and forwarding of data packets
 - d) Establishing sessions and encrypting data for security
- (iv) Show the primary historical reason for the development of IPv6.
 - a) To improve network performance
 - b) To support more available IP addresses
 - c) To enhance security features
 - d) To reduce network congestion
- (v) Select the command that is used to displays a list of available commands in a specific CLI mode.
 - a) show commands
 - b) help
 - c) ?
 - d) list
- (vi) Identify the primary use of SSH.
 - a) Secure remote login
 - b) Secure file storage
 - c) Secure database access
 - d) Secure web browsing
- (vii) What is the main advantage of using a hierarchical network design in OSPF?
 - a) Simplifies IP address management
 - b) Reduces the size of routing tables
 - c) Increases network latency
 - d) Eliminates the need for routers

(viii) Identify the main role of ROM (Read-Only Memory) during the router startup process.

- a) Storing the startup configuration
- b) Storing the routing table
- c) Loading the bootstrap program
- d) Running the operating system

(ix) Where should a standard ACL be placed to effectively filter traffic?

- a) As close to the destination as possible
- b) As close to the source as possible
- c) On the core router
- d) On the firewall

(x) What is the main purpose of STP?

- a) To increase network speed
- b) To prevent switching loops
- c) To manage VLANs
- d) To route IP packets

Group-B

(Short Answer Type Questions)

3 x 5=15

- 2. What is the primary function of the Network Layer in the OSI model? (3)
- 3. Explain the concept of route convergence in dynamic routing. (3)
- 4. Describe the difference between the "permit" and "deny" keywords in an ACL. (3)
- 5. What is the primary function of a VPN? (3)
- 6. Differentiate between IPv4 and IPv6 addressing. (3)

OR

Differentiate between dynamic routing and static routing. (3)

Group-C

(Long Answer Type Questions)

5 x 3=15

- 7. What is the difference between an access port and a trunk port on a switch? (5)
- 8. Compare between VTP Server, VTP Client, and VTP Transparent modes. (5)
- 9. Predict the Subnet mask and the number of subnet and host/subnet using the ip : 202.200.5.0/26 (5)

OR

Evaluate the importance of using named ACLs instead of numbered ACLs in a growing network environment. (5)
