BRAINWARE UNIVERSITY

Term End Examination 2024-2025
Programme – M.Sc.(ANCS)-2021/M.Sc.(ANCS)-2022/M.Sc.(ANCS)-2023
Course Name – Routing Professional
Course Code - MNCS301
(Semester III)

Full Marks : 60 **Time : 2:30 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 15=15

1. *Choose the correct alternative from the following :*

(i) What is the main purpose of route redistribution in networking?
a) To increase bandwidth b) To connect different routing domains
c) To enhance security d) To reduce latency

(ii) When redistributing routes from RIPV2 to EIGRP, what metric is assigned by default if not specified?
a) Bandwidth b) Delay
c) Reliability d) Infinity

(iii) Considering in EIGRP best path is known as the successor, choose the name of the backup path.
a) Feasible successor b) Default route
c) Back-up route d) There is no backup route in EIGRP

(iv) Write the routing method that best describes BGP.
a) Distance vector b) Path-vector
c) Link-state d) Hybrid of link-state and distance vector

(v) Choose the correct one that should be used to reduce the number of routes in a routing table.
a) EIGRP b) DDR
c) Route carving d) Route summarization

(vi) Which type of BGP is used for routing between autonomous systems?
a) iBGP b) eBGP
c) aBGP d) oBGP

(vii) Select the BGP message type that is used to advertise new routes or withdraw old ones.
a) Open b) Update
c) Keepalive d) Notification

(viii) Identify the primary purpose of MD5 authentication in BGP.

a) Encrypt data
b) Authenticate peers
c) Increase speed
d) Monitor traffic

(ix) Select the problem that a Route Reflector solves in IBGP.

a) Loop prevention
b) Redundancy
c) Scalability
d) Security

(x) Choose the result if there is a tie in the BGP decision process after considering all attributes.

a) Oldest route is chosen
b) Newest route is chosen
c) Route with highest IP address is chosen
d) Route with lowest IP address is chosen

(xi) Select the option that the AS Path attribute uses to prevent routing loops in BGP.

a) By ignoring duplicate AS entries
b) By adding AS Path to the route
c) By filtering routes from unknown AS
d) By recording the AS sequence

(xii) Determine the HSRP command that displays the virtual MAC address used.

a) show standby mac
b) show ip hsrp
c) show mac address-table
d) show standby

(xiii) Explain the purpose of load balancing in GLBP.

a) To distribute traffic across multiple routers
b) To increase security
c) To enhance convergence speed
d) To reduce routing table size

(xiv) Select the type of network communication flow that is best described as "one-to-nearest."

a) Unicast
b) Broadcast
c) anycast
d) Multicast

(xv) Select the category of the AS path attribute.

a) well-known mandatory
b) optional transitive
c) well-known discretionary
d) optional nontransitive

Group-B

(Short Answer Type Questions) 3 x 5=15

2. Define the term- Provider Aggregatable Address (PA) Space. (3)
3. Discuss about the metrics used in RIPV2 and EIGRP, and their effect in route redistribution. (3)
4. Write the function of the BGP KEEPALIVE message. (3)
5. Why will you plan to use Multi-Exit Discriminator (MED) attribute? (3)
6. Explain the purpose of using HSRP in a network. (3)

OR

Classify the roles of routers in HSRP group. (3)

Group-C

(Long Answer Type Questions) 5 x 6=30

7. Differentiate between Public IP address and Private IP address. (5)
8. Discuss the output of show ip bgp command. (5)
9. Discuss the role of 'transit AS' in BGP. (5)
10. Justify the significance of using a full mesh topology in iBGP. (5)
11. Explain the basic terminology of GLBP. (5)
12. Summarize the process of best route selection by BGP. (5)

OR

Compare BGP from interior gateway protocols like OSPF and EIGRP. (5)

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