BRAINWARE UNIVERSITY

Term End Examination 2023-2024
Programme – M.Sc.(ANCS)-2022
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) The computation of the shortest path in OSPF is usually calculated by
　　a) Bellman-ford algorithm　　　　　　b) Dijkstra's algorithm
　　c) Routing information protocol　　　　d) Distance vector routing

(ii) In OSPF, which one of the following protocols is used to discover neighbour routers automatically.
　　a) Link state protocol　　　　　　　　b) Routing information protocol
　　c) Error-correction protocol　　　　　d) Hello protocol

(iii) If routers in a single area are configured with the same priority value, select what value does a router use for the OSPF Router ID in the absence of a loopback interface.
　　a) The lowest IP address of any physical interface　　　b) The lowest IP address of any logical interface
　　c) The highest IP address of any physical interface　　　d) The highest IP address of any logical interface

(iv) Which of the following protocols classify VLSM, summarization, and discontiguous networking?
　　a) EIGRP　　　　　　　　　　　　　b) BGP
　　c) HSRP　　　　　　　　　　　　　　d) All of the above

(v) Choose the administrative distance for internal EIGRP route.
　　a) 90　　　　　　　　　　　　　　　　b) 110
　　c) 170　　　　　　　　　　　　　　　d) 91

(vi) Choose the administrative distance for external EIGRP route.
　　a) 90　　　　　　　　　　　　　　　　b) 110
　　c) 170　　　　　　　　　　　　　　　d) 100

(vii) EIGRP uses which of the following algorithms for evaluating shortest path.
　　a) SPF　　　　　　　　　　　　　　　b) Linkstat
　　c) DUAL　　　　　　　　　　　　　　d) Dikstraalgo

298- 42

(viii) Identify from the following features which prevents a route learned on one interface from being advertised back out of that interface.

a) Poison Reverse
b) Summarization
c) Split Horizon
d) Convergence

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

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

(x) A network segment has a bandwidth of 10 Mbps, and packets experience an end-to-end latency of 100 ms. Match the bandwidth-delay product of the network segment.

a) 100,000,000 bits
b) 10,000,000 bits
c) 1,000,000 bits
d) 100,000 bits

(xi) Identify the purpose of MED command in BGP.

a) Provide emergency medical updates on a BGP routing table.
b) Provide Medium Extra Documentation on BGP attributes.
c) Inform neighboring external AS routers as to which link to use to receive traffic.
d) Inform neighboring internal AS routers as to which link to use to receive traffic.

(xii) Predict which parameter of IGRP and EIGRP must be the same if automatic route redistribution is to take place.

a) Process-id
b) Area
c) Metric
d) Weight

(xiii) Trace which IP address is used as the OSPF Router ID.

a) Highest IP address
b) Highest loopback IP address
c) Lowest IP address
d) Lowest loopback IP address

(xiv) Router R1, in ASN 11, learns a BGP route from BGP peer R22 in ASN 22. R1 and then uses BGP to advertise the route to R2, also in ASN 11. Predict which ASNs would you see in the BGP table on R2 for this route?

a) 22
b) 11
c) 1
d) 4

(xv) Explain where EIGRP successor routes are stored.

a) In the routing table only
b) In the topology table only
c) In the neighbor table only
d) In the routing table and the topology table

Group-B
(Short Answer Type Questions)   3 x 5=15

2. Identify the difference between iBGP and eBGP.   (3)
3. Describe the relevance of BGP routing protocol in a network topology.   (3)
4. Illustrate the basic characteristics of BGP.   (3)
5. List which two pieces of information are lost when redistributing routes from one routing   (3)
   source into another routing source and injecting a seed metric at the point of redistribution.
6. Decide how much memory my router should have to get my ISP's whole BGP routing table.   (3)

OR

Assess whether iBGP (internal BGP) sessions change the next hop.   (3)

Group-C
(Long Answer Type Questions)   5 x 6=30

7. Summerize the role of iBGP in the context of internetworking.   (5)
8. How could you evaluate the Virtual Gateway Redundancy in GLBP.   (5)
9. Assess the purpose of the subnets keyword when redistributing OSPF.   (5)
10. Describe the need of Virtual Link in OSPF Multi-Area.   (5)

11. Explain the need of Autonomous System number in BGP. (5)
12. Write the role of 'Hot Standby Router Protocol (HSRP)'. (5)

OR

Anticipate the different features of HSRP. (5)

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