



BRAINWARE UNIVERSITY

Term End Examination 2024-2025

Programme – M.Sc.(ANCS)-2024

Course Name – Routing Associate

Course Code - MNC20109

(Semester II)

Library
Brainware University
398, Ramkrishnapur Road, Barasat
Kolkata, West Bengal-700125

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) Identify the routing protocol that is designed specifically for large-scale networks, using hierarchical structure and area concept to improve scalability and reduce the size of routing updates.
 - a) EIGRP
 - b) RIPv2
 - c) OSPF
 - d) BGP
- (ii) What category of network technology refers to networks where multiple devices are connected in a non-broadcast manner, requiring a central device to manage communication?
 - a) Point-to-Point
 - b) NBMA
 - c) Broadcast
 - d) Multicast
- (iii) Select the correct protocol that maintains neighbor adjacencies.
 - a) RIPv2 and IGRP
 - b) RIPv2
 - c) IGRP and RIP
 - d) EIGRP
- (iv) Determine the Administrative distance for external EIGRP route.
 - a) 90
 - b) 110
 - c) 170
 - d) 100
- (v) Identify the default administrative distance of OSPF.
 - a) 90
 - b) 100
 - c) 110
 - d) 120
- (vi) Choose the multicast address that is used for OSPF hello message.
 - a) 224.0.0.1
 - b) 224.0.0.5

- c) 224.0.0.6 d) 224.0.0.9

(vii) What does OSPF use to maintain neighbor relationships?

a) LSAs b) ICMP Messages
c) ARP Requests d) Hello Packets

(viii) Choose the OSPF packet type that contains a summary of the LSDB.

a) Database Description (DBD) b) Hello
c) Link-State Request (LSR) d) Link-State Update (LSU)

(ix) No loopback interface is configured in a OSPF router. Select the way to choose the Router ID.

a) Lowest IP address b) First interface configured
c) Highest IP on physical interface d) Randomly assigned

(x) How is the OSPF cost calculated?

a) Bandwidth * Reference Bandwidth b) Reference Bandwidth / Interface Bandwidth
c) Interface Bandwidth / Reference Bandwidth d) Bandwidth + Reference Bandwidth

(xi) Identify the primary purpose of BGP.

a) To manage traffic within an autonomous system b) To provide encryption for data transmission
c) To route data within a local network d) To exchange routing information between different autonomous systems

xii) Choose the primary metric used by BGP to select the best path.

a) Hop count b) AS-Path
c) Bandwidth d) Delay

xiii) Summarize the role of a BGP Autonomous System (AS) number.

a) It identifies a router within an AS b) It identifies an individual network device
c) It uniquely identifies an AS d) It identifies a network segment

(iv) BGP considered a path-vector protocol. Select the reason.

a) It uses hop count as its metric b) It keeps track of the entire path to reach a destination
c) It uses distance vectors d) It uses link-state information

v) Choose the kind of BGP session that is established between two routers that are adjacent, but in two different Autonomous Systems.

a) External BGP (eBGP) b) Default (dBGP)
c) Internal BGP (iBGP) d) Direct

Group-B

(Short Answer Type Questions)

 $3 \times 5 = 15$

2. Explain the importance of EIGRP Hello and Hold Timer. (3)
3. Justify the use of passive interface in the field of routing updates. (3)
4. Write any 3 features of BGP that are relevant in neighbor relationship . (3)
5. Describe the characteristics of Distance vector Routing Protocol with its disadvantages. (3)
6. Analyze the significance of the term 'routing' in the network with an example. (3)

OR

Focus on the selection process of DR and BDR in OSPF broadcast network.

(3)

Group-C

(Long Answer Type Questions)

$$5 \times 6 = 30$$

7. Differentiate between different types of packet used in EIGRP. (5)
8. Illustrate the different types of network traffic. (5)
9. EIGRP choose the best path using DUAL. Evaluate the process with terminologies and suitable diagram. (5)
10. Analyze any 5 OSPF LSA types with their importance in route advertisement. (5)
11. Write the utility of BGP open and Keepalive message. (5)
12. Summarize the steps of selecting Router ID in OSPF process. (5)

OR

Compare and contrast between OSPF 'Area Border Router' and 'Autonomous System Boundary Router' with diagram. (5)

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