Roll No												

PRESIDENCY UNIVERSITY
BENGALURU

SCHOOL OF ENGINEERING

MAKEUP EXAMINATION – JAN 2023

Course Code: CSE237
Course Name: Advanced Computer Network
Program : B. Tech

Date: 30-JAN-2023
Time: 09:30AM -12:30PM
Max Marks: 100
Weightage: 50 %

Instructions:
(i) Read all questions carefully and answer accordingly.

Part A [Memory Recall Questions]

Answer all the Questions. Each question carries TWO marks. (10Qx 2M= 20M)

1. Find the Binary value of the given Hexadecimal value “F210” (CO2, Knowledge)
2. The decimal number is 259, convert to Binary (CO2, Knowledge)
   TCP/IP (Transmission Control Protocol/Internet Protocol) is a set of protocols independent of the physical medium used to transmit data, but most data transmission for Internet communication begins and ends with Ethernet frames. Which protocol of TCP/IP model is used to associate logical address with physical address? (CO2, Knowledge)
3. What is the length of header in IPV4 datagram format without 4 byte option? (CO2, Knowledge)
4. Compare static routing with Dynamic (CO2, Knowledge)
5. Discuss the two ways Connection Oriented service. (CO1, Knowledge)
6. how many classes are there in classful addressing (CO1, Knowledge)
7. CIDR means. (CO1, Knowledge)
8. All modules and procedures pertaining to transportation of data or data stream are categorized in transport layer. This layer communicates with its peer Transport layer of the remote host. Responsibility of transport layer is (CO4, Knowledge)
9. Write the service for the given UDP port number (CO3, Knowledge)
   a) 53
   b) 137

10. In layered architecture data moves from one defined level of processing to another. Different network models have different number of layers. In data link layer data is considered as.
(CO3, Knowledge)

Part B [Thought Provoking Questions]

Answer all the Questions. Each question carries FIVE marks. (7Qx5M=35M)

11. What is the usage of Traceroute command in network? (CO2, comprehension)
12. List down the flow of characteristics in Datalink layer and explain (CO3, comprehension)
13. Explain TCP Three-Way Handshake with Diagram. (CO3, comprehension)
14. Explain about IPv4 datagram format? (CO2, comprehension)
15. In layered architecture data moves from one defined level of processing to another. Different Network models have different number of layers. Explain different layers of TCP/IP model.
(CO1, comprehension)
16. Discuss the IPv6 addressing? (CO3, comprehension)
17. Write down the description for the Generic domain labels for the following
    a. coop (CO4, comprehension)
    b. Info
    c. pro
    d. net
    e.mil

Part C [Problem Solving Questions]

Answer the Question. (3Qx15M=45 M)

18. A) In a certain data communication network, transmitting station has the data frame in which the receiver address is the address of the immediate neighboring station, and not the end destination station. Which layer is used for representing the above data? Explain the characteristics and tasks of this layer?
    B) Explain Bottom three layers of open system interconnection Network Model?
(CO1, Application)

19. A) Find the class of each address.
    i) 00000001 00001011 00001011 11100000
    ii) 14.25.120.8

    B) Change the following IPv4 addresses from binary notation to dotted-decimal notation.
    i) 10000001 00001011 00001011 11101111
    ii) 11000001 10000011 00011011 11111111

C) Change the following IPv4 addresses from dotted-decimal notation to binary notation.

i) 111.56.45.78

ii) 221.34.7.82

D) Find the error if any in the following IPv4 addresses

i) 111.67.54.87.9

ii) 300.67.87.111

(CO3, Application)

20. An ISP is granted a block of addresses starting with 190.100.0.0/16. The ISP needs to distribute these addresses to three groups as follows

I) 64 customers, each needs 256 addresses

II) 128 customers with each needs 128 addresses

III) 128 customers with each need 64 addresses. Design the sub blocks and find out how many addresses are still available after these allocations?

(CO3, comprehension)