

END TERM EXAMINATION

SEVENTH SEMESTER [B.TECH] FEBRUARY 2023

Paper Code: ETIT-401

Subject: Advanced Computer Networks

Time: 3 Hours

Maximum Marks: 75

**Note: Attempt five questions including Q.No1 which is compulsory.
Select one question from each unit.**

- Q1 Attempt **any Five** of the following:- [5x5=25]
- a) What are the differences between ARP and RARP?
 - b) Describe Congestion Control techniques with help of suitable example?
 - c) What is the difference between IGMP and ICMP, and how they are used in network communication? Describe with the help of suitable diagram.
 - d) How does the architecture of IPv4 differ from that of IPv6?
 - e) What is Big Data, and how does it differ from traditional data management approaches?
 - f) What is error control at the transport layer, and why is it important in data communication?

UNIT-I

- Q2 a) Explain the different address spaces in classful addressing? (6)
b) For a given IP address 172.16.10.22 and mask 255.255.255.240, find the following: Subnet mask, broadcast address and valid range of IP addresses in this network? (6.5)
- Q3 Discuss OSPF, RIP, and BGP routing protocols in detail. Explain the functioning of each routing protocol with example. (12.5)

UNIT-II

- Q4 What is the use of transport layer? Explain the TCP protocols with the help of suitable diagram and example. (12.5)
- Q5 a) What are the key characteristics of UDP, including its use of data grams, lack of reliability guarantees, and low overhead compared to other protocols? (6)
b) Draw the frame format of TCP? Explain how the flow control and error control handled in TCP? (6.5)

UNIT-III

- Q6 What does SONET stand for? Explain the SONET architecture and its layers in detail. Also, describe the function of the regenerator in detail. (12.5)
- Q7 a) What is resource management, and why is it important for networks? Explain the different types of resource management in detail. (6)
b) Describe QoS for optical networks? Explain Queue Management Algorithms. (6.5)

UNIT-IV

- Q8 Describe various object oriented testing techniques like class testing, inter class testing and system testing with the help of suitable example. (12.5)
- Q9 Write down Short note on following (**any two**): [6.25, 6.25]
- a) SAAS, PAAS and HAAS.
 - b) Telnet and Finger.
 - c) Cloud Computing.
