

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.
