

NATIONAL INSTITUTE OF TECHNOLOGY PATNA
Department of Computer Science and Engineering
End Semester Examination Jan, 2021
M Tech First Semester (Computer Networks)/PhD
Subject: Advanced Computer Networks (CS420103)

Full Marks: 40

Duration: 2 Hrs

Ques 1 [8 Marks] Discuss at least five technologies that will change networking in 2021 with suitable diagram? Further, highlights your significant plans to be considered in designing an advanced Network?

Ques 2 [8 Marks] Compare and contrast TCP segment with SCTP packet in detail along with flow and congestion control mechanism for SCTP? Also discuss SCTP associations (connection, data transfer and termination) with suitable diagram and explanation?

Ques 3 [8 Marks] Compare and contrast UDP with Real-time Transport Protocol (RTP) in detail? Also discuss the Sender and receiver report and application defined packet in the real time control protocol (RTCP) packet.

Ques 4 [8 Marks] Discuss the algorithmic steps for distance vector routing algorithm? How does it differ from link state routing algorithm along with their merits and demerits of both algorithms? Explain with suitable example. Consider the network shown below (Fig. 1) and assume that each node initially (stage zero) knows the costs to each of its neighbors. Apply the distance vector algorithm and compute new distance table entries (up to second stage), and inform their neighbors of any changes in their new least path costs

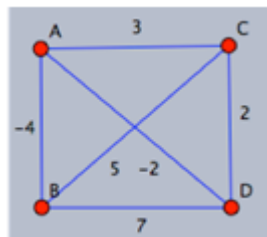


Fig. 1: The Network

Ques 5 [4 Marks each] Write the short notes on following with suitable diagram/examples

- a. Wireless sensor network
- b. Security in the Internet