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Question Paper Code : 21367

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2015.

Eighth Semester

Electronics and Communication Engineering

CS 2060/CS 807/EC 1009/10144 CSE 62/10144 ECE 33 – HIGH SPEED NETWORKS

(Common to Seventh and Eighth Semester – Computer Science and Engineering)

(Regulations 2008/2010)

(Also common to PTCS 2060/10144 ECE 33- High Speed Networks for B.E. (Part-Time) Seventh Semester – Electronics and Communication Engineering – Regulations 2009/2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What does the term 'asynchronous' indicate in ATM networks?
2. Name the steps involved in the transfer of data in case of WiMax networks.
3. List out the three assumptions considered by Jackson for analyzing the network of queues.
4. State the effects of congestion.
5. What are the factors to be considered for improving the TCP performance using Jacobson's algorithm?
6. Define ERICA algorithm for allocating fair share for each ATM connection.
7. What are the advantages of Bit-Round fair Queuing Algorithm?
8. List down the characteristic properties of a Differentiated Service.
9. State the characteristics of RSVP.
10. Distinguish hop-lug-hop and explicit routing.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Compare and contrast between Cut through forwarding and Store and forward switching techniques. (8)
- (ii) Explain in detail about the properties of Gigabit Ethernet. (8)

Or

- (b) (i) Explain the process involved in establishing ATM logical connection with an illustration. (8)
- (ii) State how the fault tolerance is achieved in Wireless LANs with an example. (8)
12. (a) An engineering firm provides each of its analyst with a personal computer, all of which are hooked up over a LAN to a database server. In addition, there is an expensive, standalone graphics workstation that is used for special purpose design tasks. During the course of a typical 8-hour day, 10 engineers will make the use of the workstation and spend an average of 30 minutes at a session. Manager is satisfied with this arrangement since the utilization factor of the work station is only 5 hours out of 8. The engineers complain that the wait time for using the work station is long, often an hour or more and are asking for more workstations. Explain the queuing analysis that should be done by the engineers to convince the manager. (16)

Or

- (b) (i) Discuss in detail about the congestion control schemes of frame relay. (8)
- (ii) Explain in detail about the single server Queues. (8)
13. (a) (i) A TCP entity opens a connection and uses slow start. Justify how many numbers of round trip times is required before TCP can send 'N' segments? (8)
- (ii) Analyze the timer management algorithm supported by TCP congestion control scheme. (8)

Or

- (b) (i) Specify the architecture of ATM and explain the functions of the three ATM layers. (8)
- (ii) Elaborate about the performance of TCP over ATM. (8)

14. (a) Explain in detail about queuing disciplines for BRFQ, WFQ, GPS and PS. (16)

Or

- (b) Explain about integrated service architecture and differentiated services in detail with neat diagram. (16)

15. (a) Explain in detail about RTCP architecture and RIP protocol. (16)

Or

- (b) Discuss in detail about the goals and characteristics of RSVP with its operations. (16)
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