Register Number: ……………………..

B.E DEGREE EXAMINATIONS: APRIL/MAY 2014

(Regulation 2009)

Seventh Semester

ELECTRONICS AND COMMUNICATION ENGINEERING

ECE129: High Speed Networks

Time: Three Hours   **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Frame Relay has _____
    - a) Only the physical layer
    - b) Only the data link
    - c) The physical and data link layers
    - d) The physical, data link and network layers

2. High speed ethernet works on
    - a) coaxial cable
    - b) twisted pair cable
    - c) optical fiber
    - d) none of the mentioned

3. Which of the following is not one of the assumptions of an M/M/1 model?
    - a) Arrivals are independent of preceding arrivals but the arrival rate does not change over time
    - b) Arrivals are served on a last-in, first-served basis.
    - c) Service times follow the negative exponential probability distribution.
    - d) Arrivals follow the Poisson distribution and come from an infinite population

4. The _____ bucket algorithm allows idle hosts to accumulate credit for the future in the form of tokens
    - a) Leaky
    - b) token
    - c) either a or b
    - d) a. neither a nor b

5. TCP uses _____ to check the safe and sound arrival of data.
    - a) an acknowledgement mechanism
    - b) out of band signaling
    - c) the services of another protocol
    - d) none of the above

6. The technique of --------------- refers to a congestion control mechanism in which a congested node stops receiving data from the immediate upstream node or nodes
    - a) Back pressure
    - b) choke packet
    - c) Implicit signaling
    - d) explicit signaling

7. In _____ queuing, the packets are assigned to different classes and admitted to different queues. The queues however are weighted based on the priority of the queue. The system processes packets in each queue in a round robin fashion with the number of packets selected from each queue based on the corresponding weight.
    - a) FIFO
    - b) Priority
    - c) Weighted Fair
    - d) None of the above

8. _____ is a class – based QoS model designed for IP
    - a) Integrated service
    - b) Differentiated Services
    - c) Connection less
    - d) Connection oriented

9. A Commonly used protocol to support quality of service (QoS) is
    - a) Address resolution Protocol
    - b) RSVP
    - c) RTCP
    - d) RTP

10. Which of the following protocol is meant for delivering audio and video over IP network?
    - a) RSVP
    - b) RTP
    - c) MPLS
    - d) All the above

PART B (10 x 2 = 20 Marks)

11. What is the purpose of cell loss priority bit in ATM cell format?

12. What is virtual path identifier and Virtual connection identifier

13. Define Arrival rate and service rate.

14. What is the difference between committed burst size (Bc) and Excess burst size (Be)

15. Why is retransmission strategy essential in TCP?

16. Why congestion control in a TCP/IP-based internet is complex.

17. Distinguish between inelastic and elastic traffic?

18. State the drawbacks of FIFO queuing discipline?

19. What is meant by soft state in RSVP?

20. What is the purpose of time to live in MPLS label format

PART C (5 x 14 = 70 Marks)

21. a)   Discuss the features of ATM and explain in detail about the ATM Protocol architecture and ATM logical connections.

(OR)

    b) (i)   Explain Fiber channel Protocol architecture.   (8)
       (ii)   Explain varies ATM services.   (6)

22. a)   Explain M/M/1 and M/D/1 queuing model and derive expression for(i)Waiting

time in the queue(ii) Waiting time in the system.(iii) Number of customers in the queue.

(OR)

b)   Explain in detail the effects of congestion and the important techniques to be followed to deal with congestion.

23. a)   Explain the five important window management techniques.

(OR)

b)   Explain the congestion control mechanism in ATM networks carrying TCP traffic.

24. a)   Write notes on the following queuing discipline

       i)Fair queuing   ii) Bit Round fair queuing (BRFQ)   iii) Weighted fair queuing(WEQ)

(OR)

b)   Explain the Random early detection algorithm and how is it used to control congestion

25. a)   (i)   Explain the resource reservation protocol (RSVP) operation   (10)

       (ii)   Also write its goals and characteristics   (4)

(OR)

b)   Explain the operation of multi protocol label switching

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