**B.TECH DEGREE EXAMINATIONS: APRIL/MAY 2011**

Sixth Semester

**INFORMATION TECHNOLOGY**

U07IT602:  High Performance Networks

**Time: 3 Hours**                                                         **Maximum Marks: 100**

**Answer ALL Questions:-**

**PART A (10 x 1 = 10 Marks)**

1. In _____ approach each packet is treated independently with no reference to packets that have gone before.

    a) datagram        b) virtual circuit        c) packet switching    d) frame relay

2. LAPF is a standard _____protocol for frame relay.

    a) end-to-end      b) AAL          c) datalink control      d) flow control

3. If all the packets are of same length in multiserver queue, then they would fit into_____ region.

    a) Ratio close to 1          b) Zero          c) Ratio less than 1      d) Ratio greater than 1

4. Reservation scheme is an integral part of _____ networks.

    a) ATM              b) virtual              c) high-speed              d) packet-switching

5. _____ adopts a policy of more aggressive dropping of packets as congestion increases.

    a)PPD                b)FBA                    c)UBR            d)EPD

6. _____ defines an upper bound on the traffic that can be submitted by a source on an ATM connection.

    a) minimum cell rate   b) maximum burst size   c) peak cell rate   d) sustainable cell rate

7. When a new flow is requested the reservation protocol invokes the _____ function.

    a) admission control    b) packet scheduler    c) management agent   d) classifier

8. A _____ may absorb a burst of packets in a buffer and pace the packets over a long period of time.

    a) dropper                  b) marker        c) absorber              d) traffic shaper

9. A dynamic routing scheme is supported by _____ and _____ protocols.

    a) TCP,OSPF      b) TCP,UDP          c) OSPF,BGP          d) BGP,RSVP

10. The _____ is a simple device that produces one or more outgoing RTP packets for each incoming RTP packet.

    a) translator        b) mixer                c) filter                d) transmitter

## PART B (10 x 2 = 20 Marks)

11. What are the data link control functions provided by the LAPF core protocol?

12. List out the characteristics of virtual channel connections.

13. Define Kendall's notation.

14. What is the use of backpressure?

15. Differentiate between PPD and EPD.

16. What is the capacity of ABR allocations?

17. List out the requirements for inelastic traffic.

18. What are the drawbacks of FIFO queuing discipline?

19. Name the two protocols used to exchange the necessary information among routers.

20. Mention the rules for processing the TTL field in the label

## PART C (5 x 14 = 70 Marks)

21. a) (i) Explain in detail about ATM logical connections and its relationships. (7)

    (ii) Discuss the categories of ATM service. (7)

**(OR)**

  b) (i) Write a note on Classical Ethernet. (7)

    (ii) Explain the fibre channel protocol architecture with a neat diagram. (7)

22. a) (i) Describe the approaches used in queuing analysis. (4)

    (ii) Briefly explain about single – server queue. (10)

**(OR)**

  b) (i) Discuss the various congestion control techniques. (7)

    (ii) Write a note on traffic rate management. (7)

23. a) (i) Explain the two key performance issues with respect to ATM traffic and congestion control mechanisms. (6)

    (ii) Discuss the various traffic-related attributes. (8)

**(OR)**

  b) (i) Draw the Resource Management cell format and explain its elements. (6)

    (ii) Explain the fundamental components of a GFR mechanism. (8)

24. a) (i) Write in detail about ISA components and its services. (8)

    (ii) Compare and contrast FIFO, Fair Queuing and Weighted Fair Queuing. (6)

**(OR)**

  b) (i) Write an algorithm for Random Early Detection. (8)

(ii) What are the terminologies for a Differentiated Services? and Explain. (6)

25. a) (i) What are the goals and characteristics of a Reservation protocol? Explain. (6)

    (ii) Describe the various RSVP operations with a neat diagram. (8)

**(OR)**

b) (i) Discuss the key elements and key features of MLSP operation. (7)

    (ii) Explain the RTP protocol architecture with a neat diagram. (7)

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