YMCA UNIVERSITY OF SCIENCE& TECHNOLOGY, FARIDABAD

B. TECH. 6th SEMESTER (UNDER CBS)

HIGH SPEED NETWORK (IT304)

Time: 3 Hours Max. Marks:60

Note: 1. *It is compulsory to answer the questions of Part -1. Limit your answers within 20-40 word in this part.*
2. *Answer any four questions from Part -2 in detail.*
3. *Different parts of the same question are to be attempted adjacent to each other.*
4. *Assume suitable standard data wherever required, if not given.*

PART -1

Q1 (a) What is the role of LAPB in X.25? (2)
(b) Draw the graph for cell transfer delay vs. Probability density function. (2)
(c) Draw IEEE 802.11 protocol architecture. (2)
(d) Define session with respect to the RTP protocol. (2)
(e) What is the role of HEC in ATM Cell? (2)
(f) What do you mean by EPD? (2)
(g) Draw flow chart for effect of error in cell header. (2)
(h) What are the functionalities of ATM adaptation layer? (2)
(i) What are the fiber channel protocol layers? (2)
(j) What is the role of soft state used in RSVP? (2)

PART -2

Q2 (a) Explain the following terms in context with connection traffic descriptor: (5)
(a) CDVT
(b) SCR
(b) Why different ATM service categories are needed? Explain (5)
(i) CBR
(ii)UBR

Q3 (a) Explain the general expression $T_{Rn+1}=T_{Sn+1}+MAX\ [0, D_n-A_{n+1}]$ in queuing model. (5)
(b) Give comparison of X.25 and Frame Relay protocol stack. (5)

Q4 (a) What is the difference between integrated services and differentiated services? Explain the traffic conditioning function in differentiated services with diagram. (7)
(b) What are the disadvantages of BRFQ? How GPS provides an improvement? (3)

Q5 (a) For a single server queuing system, provide an intuitive argument to justify the relationship $r = \lambda T_r$ and $r = w + \rho$, where r is mean number of items in the system (waiting & served); T_r mean residence time, w is mean number of items waiting to be served. (4)
(b) Explain the label stacking feature of MPLS in detail. (6)

Q6 (a) Explain the relationship between various congestion parameters with the help of diagram. (6)
(b) What are RSVP goals and characteristics? (4)

Q7 (a) Why adaptive retransmission is difficult to achieve? Explain Jacobson algorithm for the retransmission timer. (6)
(b) What is closed loop control and how ABR uses this approach? (4)

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