(c) A TCP machine is sending full window of 65535 bytes over a 1-Gbps line that has 10 ms one way delay. What is the maximum throughput achievable? What is the line efficiency? 2+2=4

(d) What is the delay – bandwidth product for a 50-mbps channel on a geostationary satellite? if the packets are all 1500 bytes (including overheads) how big the window should be? 2+2=4

Or

4 (a) Under what condition the following fields are significant?

   (i) Acknowledgement number

   (ii) Urgent pointer

Also explain the interpretation of the value contained in the fields if these are significant. 1+1+1.5+1.5=5

(b) TCP dose not have a segment length field whereas IP has. Justify that the total length field in TCP is not required. 4

(c) If the TCP round trip time RTT is currently 30 msec and the following acknowledgements come in after 26,32,24,24 m sec respectrvely, what is the new RTT estimate using jacobsorn's algorithm? Assume $\alpha = 0.9$. 4

(d) Assume that TCP client is expecting to get byte 3001. It receives a segment with sequence number 3001 that carries 400 bytes. if the client has no data to send at this moment and has acknowledged the previous segment, what will be client do? Justify your answer. 3

Unit-5

5 (a) Which protocol enables delivery and storage of e-mails when both sender and received are not on-line at the same time? Explain the protocol briefly. 4

(b) Explain the differences in persistent and non-persistent HTTP. 4

(c) What is DNS poisoning? Explain the bad effect of DNS poisoning 4

(d) Explain the authoritative and non-authoritative DNS 4

Or

5 Write short notes on (not more than 100 words each)

   (a) Name resolution in DNS

   (b) Performance enhancement of www.

   (c) Use of cookies in www and HTTP. 4x4=16

   (d) File sharing .