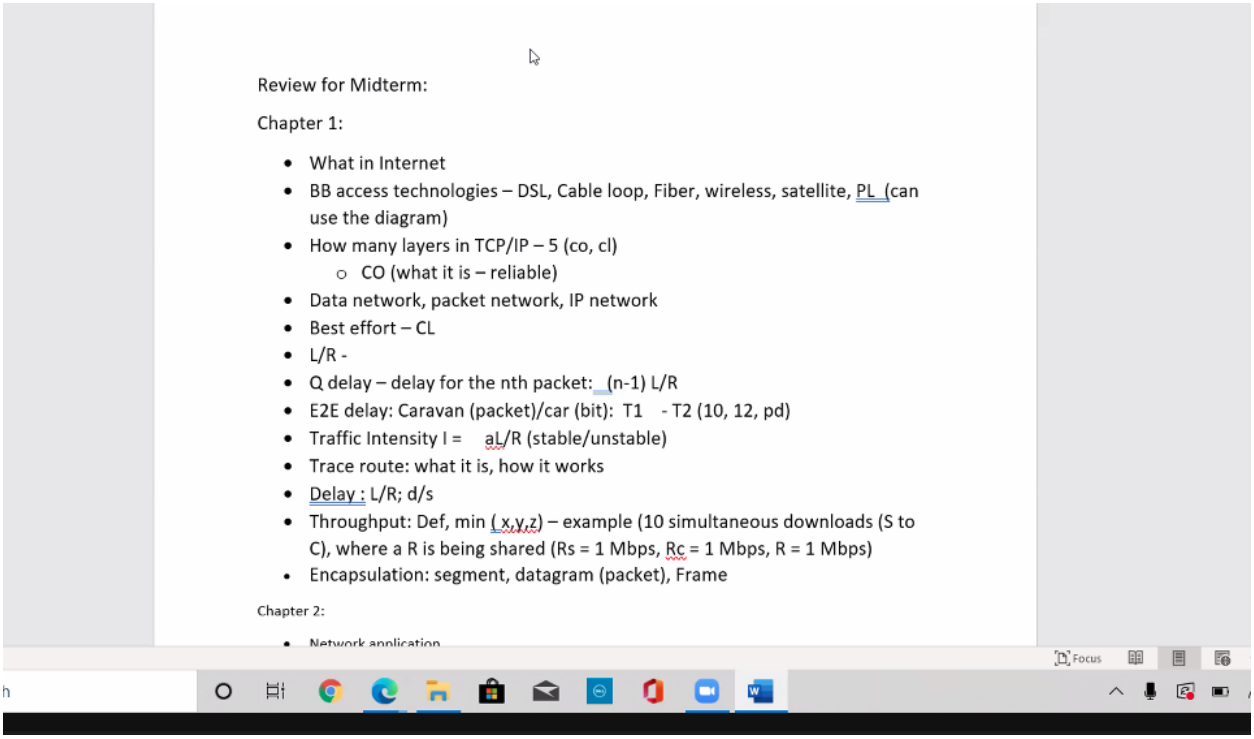
Mide term = 11/4 chap 1,2,3
FinAL – 12/9 CHAP-4,5,7,9
PPT – 12/16

Questions for mid term

1. Traffic Intensity (aL/R <=1 stable) =vimp
2. Avg throughput = min{----}
3. Caravan analogy(fastest route) =vimp
4. Traceroute
5. Access technology(dsl cable, fiber, wireless, powerline)
6. Queuing delay – (n-1)L/R
7. Response time = 2RTT + L/R
8. U = a(L/R) * 100
9. Slide 74 chp 2
10. DASH
11. Read till slide 79
12. What is cdn
13. Socket programming
14. TCP/ip layers
15. Encapsulation
16. Gateway, router
17. Web cache
18. Client-server architecture
19. Network applications
20. Dns
21. File distribution (s-c, p2p)
22. Email smtp
23. Cookies
24. Dns types
25. Socket programming – 10 (client more)
26. Why you need buffer for tcp/ip – for retransmission
    Chp – 3

27. Diff between n/w layer and transport layer
28. Multiplexing/demultiplexing – at which side
29. Slide -9 from chpt 3
30. Checksum, how it works, calculate
31. Slide 24 – four functions
32. Slide 29
33. Slide 42
34. Slide 44,45 – effective throughput = L/(L/R + RTT) pg 219,220
35. Stop and wait
36. Performance is not good
37. Pipelining, gbn, selective repeat

38. How many segment and segment sequence no –very imp
39. Fast retransmit
40. Pg 253 book flow control formula
41. 3 way handshake
42. Congestion control
43. Slide 97- transmission rate - mss/rtt
44. L is 500,000 mss=1000, no of segments=500
45. First byte of segment 0 – 499
46. Second byte – 500 – 999
47. Last byte – 499500 – 499,999
48. In what condition retransmission happens-duplicate acknowledgement,timeout – 99slide
49. Slide 101, pg 274
50. 2 question from ch3



Propagation delay – d/s

Chapter 2:

- Network application
- C-S
- Socket (process to process)
- HTTP – Req/Resp ; message structure ; two types of HTTP connection – P and NP advantages/disadvantages- problem solving (RTT, L/R)
- URL
- Web cache – what it is, how it works, problem solving (Given – L, a, Ra, Rl) : U= (aL/R)%
- Cookies/smtp/email – (UA, server, protocol)
- DNS – what it is ; how it works; Iterative, Recursive queries
- File distribution time- S -C; PEP; Bit torent
- Socket Programming (TCP Client socket, TCP Server Socket):

Chapter 3:

- Transport layer – logical communication (CO/CL)- TCP/UDP)
- Rdt – FSM to describe action taken by the sender and receiver (transition diagrams – arrows)
  Event/action (4 functions-)
  All the diagrams – explain the transition conditions in arrows
- Stop-wait – (it makes transmission reliable, but ……..)
  - Problem solving – Given: R, RTT, a, L; Calculate U= L/R / (RTT+L/R);
  - Performance explaining
  - Effective throughput – L/ ????;
  - Pipelining – GBN and SR
    - GNB (how it works) (sliding window/shifting)/ SR
- Segment – SN – how to calculate how many segments in the stream of bytes, sequence number
  - Given size of the byte streams , MSS: how many segments, sequence numbering
- Flow control controlled by the receiver– def, how it works, formula rwnd = RcvBuffer – [x -y]
- Congestion control is controlled by the sender - def, how it works, formula – cwnd =
- Two types of method- additative , multiplicative (saw tooth)
- Fast retransmit (def, how it works)
- Summary of congestion control (Slow start, Congestion avoidance, Fast recovery); walk through the diagram and explain each arrow