IT 503

B.E. Semester

Examination, December 2014

Computer Networks

Time : Three Hours

Maximum Marks : 70

Note: i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.

ii) All parts of each question are to be attempted at one place.

iii) All questions carry equal marks, out of which part A and B (Max.50 words) carry 2 marks, part C (Max.100 words) carry 3 marks, part D (Max.400 words) carry 7 marks.

iv) Except numericals, Derivation, Design and Drawing etc.

Unit - I

1 a) What do you mean by the term "clock based framing"?

b) List the common types of cables and fibers available for local links.

c) Give the token ring frame format of 802.5.

d) Explain how network are constructed from two classes of hardware building blocks.

OR

Compare and contrast stop and wait and sliding window protocol in detail with an illustration.

Unit-II

2. a) Give the example for the bit/byte oriented protocols.

b) Explain hidden/ exposed terminal problem.

c) What congestion control? Strategy is adapted in TCP

d) Describe in detail about the physical properties and collision avoidance scheme present in wi-fi.

Or

Explain in details about ethernet 802.3 with its access protocol and addressing mechanism

Unit- III

3. a) Show the NRZ and Manchester encoding for the bit patterns shown below 10101111101011111001011111 0110.

b) Explain the token early/delayed released.

c) Differentiate secret key and public key encryption technique.

d) Explain in detail about the congestion avoidance mechanisms.

OR

Write short notes on following with respect to TCP.

i) End to end issues

ii) Connection establishment and termination

Unit - IV

4. a) How does a single bit error differ from a burst error?

b) What is the purpose of sequence number in TCP packet?

c) Define the terms broadcasting unicasting and multicasting.

d) What is the difference, if any, between static routing using two equally weighted alternatives and selective flooding using only the best paths? Justify your answer.

OR

Why is UDP needed? Why can't user program directly access IP?

Unit - V

5. a) Comment on the term "keeping the pipe full".

b) List the single entry that is present in a VC table on a single switch.

c) Draw the block diagram fix a JPEG compression technique.

d) Discuss in detail about the Karlin and Jacobson algorithm for transport layer routing.

OR

enumerate on the various TCP congestion control scheme with their merits and demerits.