GUJARAT TECHNOLOGICAL UNIVERSITY BE – SEMESTER V • EXAMINATION – WINTER - 2012

Subject code: 150702

Date: 12-01-2013

Total Marks: 70

Subject Name: Computer Network

Time: 02:30 pm to 05:00 pm

Instructions:

- 1. Attempt all questions.
- 2. Make suitable assumptions wherever necessary.
- 3. Figures to the right indicate full marks.

Q.1	(a)	Explain	following	transmission	media	in	terms	of	Bandwidth	06
	supported, Throughput measured and Distance supported.									

- Fiber optics
- Unshielded twisted pair
- Radio waves
- (b) Explain the Nyquist and Shannon data rate capacity theory for 05 noiseless and noisy channel respectively.
- (c) Explain the at least three basic network criteria that are important for 03 the good functioning of the overall network.
- Q.2 (a) Explain a protocol Using Go Back N strategy using pipelining and 07 show the scenario in the case of
 - when receiver' window size is 1 and
 - when receiver' window size is large

(b) Explain the Bit-Map protocol with suitable example. 07

- OR(b) Explain the Adaptive tree walk protocol with suitable example.07
- Q.3(a) What is count-to-Infinity problem? Explain it with example07(b) Explain the Link state routing protocol with suitable example.07

OR

- Q.3 (a) Discuss and list the congestion prevention policies at data link, 07 network and transport layers that can affect the congestion.
 - (b) Explain Load shedding and Jitter control strategies to handle the 07 congestion.
- Q.4(a) Explain the Mobile-IP.07(b) Compare the IPv4 and IPv6 header.07OR07
- Q.4(a) Explain the IP addressing scheme in detail.07Q.4(b) Explain TCP header fields.07
- Q.5 (a) Explain the Domain Name System.
 (b) Explain the basic five service primitives of the transport layer
 07
 07
 07

OR

Q.5(a) Explain the basic functions of the e-mail system.07(b) Explain the architectural overview of the world wide web.07
