Seat No.:	Enrolment No.

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

BE – SEMESTER V • EXAMINATION – WINTER - 2012

Subject code: 150702 Date: 12-01-2013 **Subject Name: Computer Network** Time: 02:30 pm to 05:00 pm **Total Marks: 70 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. **07 Q.2** (a) Explain a protocol Using Go Back N strategy using pipelining and 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 (a) What is count-to-Infinity problem? Explain it with example **Q.3** 07 **(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. (a) Explain the Mobile-IP. **07** 0.4 Compare the IPv4 and IPv6 header. **07** 07 0.4 (a) Explain the IP addressing scheme in detail. **(b)** Explain TCP header fields. 0.4 **07** 07 Q.5 (a) Explain the Domain Name System. (b) Explain the basic five service primitives of the transport layer 07 protocol. OR (a) Explain the basic functions of the e-mail system. **Q.5** 07 **(b)** Explain the architectural overview of the world wide web. **07** 

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