

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 supported, Throughput measured and Distance supported. **06**
- Fiber optics
 - Unshielded twisted pair
 - Radio waves
- (b) Explain the Nyquist and Shannon data rate capacity theory for noiseless and noisy channel respectively. **05**
- (c) Explain the at least three basic network criteria that are important for the good functioning of the overall network. **03**
- Q.2** (a) Explain a protocol Using Go Back N strategy using pipelining and show the scenario in the case of **07**
- 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 example **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, network and transport layers that can affect the congestion. **07**
- (b) Explain Load shedding and Jitter control strategies to handle the congestion. **07**
- Q.4** (a) Explain the Mobile-IP. **07**
- (b) Compare the IPv4 and IPv6 header. **07**
- OR**
- Q.4** (a) Explain the IP addressing scheme in detail. **07**
- Q.4** (b) Explain TCP header fields. **07**
- Q.5** (a) Explain the Domain Name System. **07**
- (b) Explain the basic five service primitives of the transport layer protocol. **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**
