

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**ME- SEMESTER II- EXAMINATION – SUMMER 2015**

**Subject Code: 2720507****Date: 01/06/2015****Subject Name: Data Communication and Networking****Time: 2:30 PM – 5:00 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)** What is LAN, MAN & WAN? Compare these three area wise classification types of networking in detail. **07**
- (b)** What are the functions of data link layer? Describe all of them in detail. **07**
- Q.2 (a)** What is DES? Explain DES and triple DES with required diagrams. **07**
- (b)** What is hidden station and exposed station problem in wireless LAN? Describe with proper frame format: the wireless LAN ó 802.11 IEEE standard. **07**
- OR**
- (b)** What is CSMA? Describe CSMA/CD & CSMA/CA protocols in detail with examples. **07**
- Q.3 (a)** Compare X.25 and Frame Relay. **07**
- (b)** Explain 1 bit sliding window protocol with selective repeat with neat diagrams. **07**
- OR**
- Q.3 (a)** Write a short note on cellular telephone system. **07**
- (b)** Compare TCP/IP & OSI reference models. **07**
- Q.4 (a)** Explain network layer protocol IPV4 along with its header format in detail. **07**
- (b)** List the various tasks assigned to the transport layer and explain each in brief. Compare and contrast UDP and TCP. **07**
- OR**
- Q.4 (a)** Explain how Leakey bucket algorithm is dealing and providing best throughput for congestion control and flow control. **07**
- (b)** Explain Domain Naming System functioning. **07**
- Q.5 (a)** Explain count óto ó infinity problem and explain how it is solved by link state routing algorithm. **07**
- (b)** Short note on ETHERNET. **07**
- OR**
- Q.5 (a)** Compare Circuit switching, Message switching and Packet Switching with necessary examples. **07**
- (b)** Which are the methods used for Digital Signature? Explain them in detail. **07**

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