

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**ME Semester –I Examination Feb. - 2012**

**Subject code: 710309N**

**Date: 21/02/2012**

**Subject Name: Industrial Data Communication**

**Time: 10.30 am – 01.00 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 CDMA technology used for mobile communication in detail. **10**
- (b)** What is modem and state its various standards. **04**
- Q.2 (a)** Explain different service primitive for implementing simple connection oriented services. **07**
- (b)** Explain the concept of shortest path routing. **07**
- OR**
- (b)** Compare the distance vector and the link state routing protocol. **07**
- Q.3 (a)** Explain with an example how Hamming code can be used to correct single bit errors. How the Hamming code can be used for burst error correction? **08**
- (b)** What is Bluetooth? Give the performance characteristics of a typical Bluetooth device. **06**
- OR**
- Q.3 (a)** Explain the classification of ETHERNET. **08**
- (b)** Describe CSMA/CD in brief. **06**
- Q.4 (a)** Explain the Data Link Layer in Internet and HDLC. **08**
- (b)** Explain the concept of redundancy in error detection. **06**
- OR**
- Q.4 (a)** Explain electromagnetic spectrum and its role for communication. **08**
- (b)** Explain wavelength division multiplexing. **06**
- Q.5** What is the difference between protocol and service interface? Explain your answer in terms of the ISO seven layer model. **14**
- OR**
- Q.5** Explain simplex stop and wait protocol in detail. **14**

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