

GUJARAT TECHNOLOGICAL UNIVERSITY**BE SEM-VI Examination-Nov/Dec-2011****Subject code: 161704****Date: 28/11/2011****Subject Name: Analog and Digital Communication****Time: 10.30 am -1.00 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) For an AM transmitter modulated to a depth of 50 % by an audio sine wave, the antenna current is 10A. It increases to 13 A as a result of simultaneous modulation by another audio sine wave. What is the modulation index due to this second wave? Observe modulation index and answer whether it is undermodulated, fully modulated or overmodulated. **07**

(b) Explain delta modulation in detail. **07**

Q.2 (a) With suitable example write importance of modulation. **07**

(b) Describe V-Series modems V.34 and V.90. **07**

OR

(b) Describe RS 449 interface standard. **07**

Q.3 (a) Write about external noise. **07**

(b) Explain mathematical representation of FM. **07**

OR

Q.3 (a) Write a note on cyclic redundancy check as a synchronous error detection method. **07**

(b) Give comparison of wideband and narrowband FM. **07**

Q.4 (a) Write a note on optical fiber cable. **07**

(b) Mention about serial and encoded data formats with example. **07**

OR

Q.4 (a) Explain phase shift keying and application of it in detail. **07**

(b) Explain IEEE 802.6 Metropolitan area network. **07**

Q.5 (a) State about microwave transmission and common safety concerns related to it. **07**

(b) Explain cellular digital packet network. **07**

OR

Q.5 (a) Explain character-oriented approach for variable size framing in data link layer. **07**

(b) Brief about open system interconnection architecture. **07**
