

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE – SEMESTER – VI (OLD).EXAMINATION – WINTER 2016**

**Subject Code: 161704****Date: 25/10/2016****Subject Name: Analog and Digital Communication****Time: 10:30 AM to 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) Discuss types, causes and effects of the various forms of noise which may be created within a receiver or an Amplifier. **07**  
(b) Explain Need of Modulation in details. **07**
- Q.2** (a) Explain RS 422 and 423 interface standards. **07**  
(b) Compare Frequency modulation and Analog Modulation. **07**
- OR**
- (b) Explain FSK with example. **07**
- Q.3** (a) Explain PCM with example. **07**  
(b) Derive formula for the instantaneous value of a FM voltage with necessary information & Modulated signal waveforms. **07**
- OR**
- Q.3** (a) Explain longitudinal redundancy check & Vertical Redundancy check with example. **07**  
(b) Explain OSI model Architecture. **07**
- Q.4** (a) Explain in brief on GEO, LEO and MEO Satellites. **07**  
(b) Explain Optical detectors with diagram. **07**
- OR**
- Q.4** (a) Explain Wireless LAN using CSMA/CA. **07**  
(b) Explain IEEE 802.6 Metropolitan Network. **07**
- Q.5** (a) Explain SONET topology and its interface. **07**  
(b) Explain High level data link Control Protocol. **07**
- OR**
- Q.5** (a) Explain X.25 Packet Switch Protocol. **07**  
(b) Explain 8PSK Modulator. **07**

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