

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII • EXAMINATION – SUMMER • 2014****Subject Code: 172405****Date: 31-05-2014****Subject Name: Industrial Communication Systems****Time: 02:30 pm - 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) With neat sketch Explain the block diagram of communication system. | 05 |
| | (b) Define Modulation. What are the advantages of Modulation? | 05 |
| | (c) Derive the equation of Modulation Index. | 04 |
| Q.2 | (a) Define noise. Explain noise in details. | 07 |
| | (b) With the necessary mathematical analysis show the power relation of the A.M. Wave. | 07 |
| OR | | |
| | (b) Compare AM, FM & PM in tabular forms. | 07 |
| Q.3 | (a) Explain Synchronous and asynchronous transmission. | 07 |
| | (b) Explain RS 232 Interface Standards. | 07 |
| OR | | |
| Q.3 | (a) Write detailed notes on UART. | 07 |
| | (b) Differentiate balanced and unbalanced transmission lines? Explain it With suitable example. | 07 |
| Q.4 | (a) Compare ASK, FSK, PSK and PWM. | 06 |
| | (b) Write a detailed note on Suppression techniques. | 08 |
| OR | | |
| Q.4 | (a) Explain source of electrical noise. | 06 |
| | (b) Draw the block diagram of Fiber Optics Communication (FOC) system and explain it. Also list down the benefits of FOC. | 08 |
| Q.5 | (a) Explain in detail HART protocol. | 07 |
| | (b) Explain CSMA/CA with necessary figures. | 07 |
| OR | | |
| Q.5 | (a) Define Protocol. Explain TCP/IP. | 07 |
| | (b) Write a note on:- | 07 |
| | (1) CDPD | |
| | (2) Network Topologies | |
