

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII • EXAMINATION – WINTER • 2014****Subject Code: 171703****Date: 04-12-2014****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 electrical signal characteristics of the EIA-232 standard. **07**
(b) Explain EIA-485 standard with its two wire Configuration. **07**
- Q.2** (a) Write a short note on OSI Model. **07**
(b) Discuss the trouble shooting of the TCP/IP. **07**
- OR**
- (b) Explain Impedance Coupling & Electrostatic coupling of the noise. **07**
- Q.3** (a) List out the common causes of the industrial data communication problems and write step wise procedure to trouble shoot the communication system. **07**
(b) Draw DTE-DCE interface circuit. Explain functional description of DTE-DCE interface circuit. **07**
- OR**
- Q.3** (a) Explain important parameters of the fiber optics cable. **07**
(b) Write a short note on Function codes of Modbus Protocol. **07**
- Q.4** (a) Explain Field bus message specifications (FMS). **07**
(b) Describe the HART protocol. Draw HART point to point and Multidrop communication network. **07**
- OR**
- Q.4** (a) Explain Application layer and user layer of the Foundation Field bus. **07**
(b) Explain troubleshooting of AS-I. **07**
- Q.5** (a) Explain Profibus protocol stack in detail. **07**
(b) Explain Giga bit Ethernet. **07**
- OR**
- Q.5** (a) Explain the Device Net Topology. **07**
(b) Describe the Token passing and polling system for medium access control in profibus. **07**
