

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-7 • EXAMINATION – SUMMER 2018

Subject Code: 171703

Date: 03-05-2018

Subject Name: Industrial Data Communication

Time: 02:30 pm to 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) Explain OSI Model in detail. **07**
(b) List the main industrial communications systems. Write a short note on smart instrumentation systems. **07**
- Q.2** (a) Explain conductance and magnetic Coupling of Noise. **07**
(b) Explain electrical signal characteristics of EIA-232 standard. **07**
- OR**
- (b) Explain Half-duplex operation of the EIA_232 interface. **07**
- Q.3** (a) Explain the EIA-485 standard. **07**
(b) Explain EIA-232/EIA-485 interface converters. **07**
- OR**
- Q.3** (a) What are the advantages of fiber optic cables over other transmission media. **07**
(b) Classify and explain fiber optic cables. **07**
- Q.4** (a) Write a note on Function codes of Modbus Protocol. **07**
(b) Explain the Data-link Layer of HART Protocol. **07**
- OR**
- Q.4** (a) Write main features of DeviceNet. **07**
(b) Explain hybrid medium access control in ProfiBus. **07**
- Q.5** (a) Explain Physical layer and wiring rules of Foundation Field Bus. **07**
(b) Explain 10Base2 and 10BaseT Ethernet. **07**
- OR**
- Q.5** (a) Explain IPv-4 header. **07**
(b) Write fundamental elements of a radio link. **07**
