

**GUJARAT TECHNOLOGICAL UNIVERSITY****Diploma Engineering - SEMESTER-III • EXAMINATION – WINTER • 2014****Subject Code: 3331702****Date: 27-11-2014****Subject Name: Telemetry System****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.
4. English version is considered to be Authentic.

- Q.1** Answer any seven out of ten. **14**
1. List the different types of telemetry systems
  2. State standard output ranges of ANYTWO types of telemetry systems
  3. List Components of Pneumatic Telemetry system
  4. Define multiplexing
  5. Define amplitude modulation
  6. Define frequency modulation
  7. Define Pulse Code Modulation (PCM)
  8. Name the types of unguided transmission media
  9. List the parts of optical fibre connectors
  10. List Safety Barrier Zones with their types
- Q.2** (a) Classify the different types of telemetry systems **03**
- OR
- (a) Draw block diagram of any one type of telemetry system. **03**
- (b) State the components of a typical hydraulic telemetry system. **03**
- OR
- (b) State the components of a typical Pneumatic Telemetry system. **03**
- (c) State the functions of each component of Pneumatic Telemetry system. **04**
- OR
- (c) Draw and label each component of electrical telemetry system **04**
- (d) Justify the need of process data multiplexing in telemetry **04**
- OR
- (d) Describe the working principle of the Time division multiplexing(TDM). **04**
- Q.3** (a) State merits and demerits of frequency division Multiplexing (FDM) **03**
- OR
- (a) Describe the amplitude modulation with block diagram. **03**
- (b) Describe the frequency modulation with block diagram. **03**
- OR
- (b) Describe the pulse code modulation (PCM) **03**

	(c) Describe Pulse Position Modulation (PPM)	<b>04</b>
	OR	
	(c) Describe pulse width modulation( PWM)	<b>04</b>
	(d) State the types and importance of Serial and parallel transmission	<b>04</b>
	OR	
	(d) Compare the features of any two types of Fibre optic cables	<b>04</b>
<b>Q.4</b>	(a) Define guided media and enlist different type of guided media	<b>03</b>
	OR	
	(a) Name the types of unguided transmission media	<b>03</b>
	(b) Explain the need of isolation of process signals in control room to field.	<b>04</b>
	OR	
	(b) State the steps to troubleshoot the electric telemetry loop	<b>04</b>
	(c) Describe the block diagram a typical telemetry system.	<b>07</b>
<b>Q.5</b>	(a) Describe the modes of transmission	<b>04</b>
	(b) State the steps to be taken to maintain various buses used for transmitting the signals	<b>04</b>
	(c) Describe the effect of Back reflection methods while using optical isolator	<b>03</b>
	(d) State the importance of safety measures in process telemetry	<b>03</b>

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