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RN-6823

B. E. - III (Sem. V) (Instrumentation & Control)

Examination

May / June - 2010

Instrumentation System

Time : 3 Hours]

[Total Marks : 100

Instructions :

(1)

नीचे दृशविवेक निशान्चीवाणी विगतो उत्तरवडी पर अवश्य लपवी.
Fillup strictly the details of signs on your answer book.

Name of the Examination :
B. E. - 3 (Sem. 5) (I & C)

Name of the Subject :
Instrumentation System

Subject Code No. : **6 8 2 3** Section No. (1, 2,.....): **1&2**

Seat No. :

Student's Signature

- (2) Answer to each sections must be written in separate answer books.
(3) Figures to the right indicate maximum marks.
(4) Draw neat figure wherever required.

SECTION - I

- 1 (a) Answer the following questions :
- (i) Draw a loop diagram (loop instruments-electronics) for level measurement. **2**
- (ii) Give the difference between positive displacement compressor and dynamic compressor. **3**
- (iii) What do you mean by casual inspection of control panel ? In what situation it is carried out ? **2**
- (iv) Locate the following instruments on control panels : **2**
- (1) Air header for panel mounted pneumatic instruments.
- (2) Push button and switches.
- (3) Controllers for critical loop.
- (4) Controllers for frequently operated loop.
- (v) Draw a graph showing relationship between dew point and moisture content with at least for three different pressures. **3**
- (b) Identify following tag number : **2**
FD-TICAL-06.

2	(a)	Explain working of any type of dryer with necessary diagram.	8
		OR	
	(a)	(i) Explain type of control panel in brief.	6
		(ii) What is hygroscopic material ? When these material get saturated.	2
	(b)	Brief about the face layout and rear layout of the control panels.	4
	(c)	(i) Give comparison of different types of control panel.	6
		OR	
	(c)	(i) State control room layout detail.	6
3	(a)	Brief about instrument power requirement and distribution for control panel. Write about control room lighting and communication systems used in control centers.	6
		OR	
	(a)	Brief about source criteria for instrument air system.	6
	(b)	Give brief idea about take offs and valving of instrument air system.	
		OR	
	(b)	Define dew point. How it plays important role in selection of dryers ?	6
	(c)	How inspection will be carried for complex control panel ?	6
SECTION - II			
4	(a)	(i) State personal safety and energy levels for electrical hazardous.	3
		(ii) State positive and negative features of circular chart recording.	3
		(iii) State the application of strip chart recorder.	2
		(iv) Brief about source of ignition.	2
	(b)	Explain intrinsic safety in detail.	8
5	(a)	Explain online and off line UPS and explain the necessity of UPS.	8
	(b)	Explain X-Y recorder with neat sketch.	8
		OR	
5	(a)	Different type and sequence of alarm annunciator.	8
	(b)	Explain strip chart recorder with neat sketch.	8
6		Attempt any two of the following:	16
	(a)	Types of indicators	
	(b)	Magnetic type recorder	
	(c)	Classification of hazardous location.	