



SE-8344

**B. E. - III (Sem. VI) (Instrumentation & Control)
Examination
May / June - 2011
Instrumentation Systems**

Time : 3 Hours]

[Total Marks : 100

Instructions :

नीचे दृश्यादि निशानीवाणी विगतो उत्तरवही पर अवश्य लिखनी.
Fillup strictly the details of signs on your answer book.

Name of the Examination :
B. E. - 3 (SEM. 6) (I.C.)

Name of the Subject :
Instrumentation Systems

Subject Code No. : 8 3 4 4 Section No. (1, 2,.....) : 1&2

Seat No. :

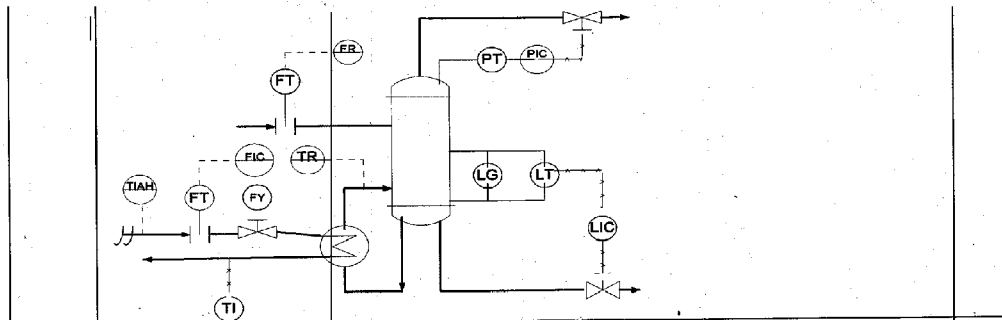
Student's Signature

- (1) Figure to the right indicate maximum marks.
(2) Draw neat figure wherever required.

SECTION I

Q-1	Answer the short questions.	
i.	Draw a simple close loop P&ID for Temperature measurement .	(2)
ii.	Identify following tag number: LIRCAH-05	(2)
iii.	Draw symbol of(a)Electrical line(b)Pneumatic line (c)Guided sonic signal	(3)
iv.	Define following: (1)Local mounted(2)shared instrument(3)primary element	(3)
v.	Draw a loop diagram (loop instruments-electronics) for Pressure Process..	(2)
vi.	State difference between Series and parallel loop numbering system	(2)
Q-2(a)	Explain in detail Job Execution in Project .	(8)
(b)	Write down selecting criteria, advantages & disadvantages for Differential flow meter.	(6)
	OR	
(a)	Explain in detail (1)Instrument tubing support layout(2)Schematic control Diagrams(3)Emergency shutdown systems(4)instrument wiring details	(8)
(b)	Write down selecting criteria, advantages & disadvantages for Thermocouples.	(6)
(c)	Explain typical and general guideline for selecting control valves	(6)

Q-3(a)	Study the diagram shown in fig.1 carefully, if you feel that the loops are not complete then redraw the diagram and identify instrument types from used symbols and also provide tag Numbers to the instruments.	(8)
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(b)	Explain :Process flow sheet	(4)
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OR

(a)	Explain standard rules related with Functional identification and Loop identification of tag numbering system.	(8)
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(b)	Explain: Instrument specification sheet.	(4)
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(c)	Short note: List out general Selection criteria for Level meters.	(4)
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SECTION II

Q-1	Answer the short questions.	
i.	Give list of reference drawings required for construction & start up.	(2)
ii.	Explain organizing.	(2)
iii.	Explain planning the schedule.	(3)
iv.	Give a list of factors that should be considered in designing instrument air systems.	(3)
Q-2(a)	Give history of control panels.	(8)
(b)	Explain graphic displays of control panel.	(6)
	Or	
(a)	Explain dynamic compressors.	(8)

(b)	Explain compressor cooling.	(6)
(c)	Explain header & branch sizing & various materials needed for its construction.	(6)
Q-3(a)	Give typical control valve check out procedure.	(6)
(b)	Explain control room air supply.	(6)
	Or	
(a)	Give a check list of good installation practices.	(6)
(b)	Why is oil removal necessary for compressors?how it is carried out?	(6)
(c)	Explain instrument calibration.	(8)