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SEAT No. :

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TE/INSEM/APR-48

T.E. (Chemical)

**309352 : PROCESS INSTRUMENTATION AND CONTROL
(2015 Pattern) (Semester - II)**

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates

- 1) *Figures to the right indicate full marks.*
- 2) *You are advised to attempt not more than three question.*
- 3) *Neat diagram must be drawn wherever necessary.*
- 4) *Use of logarithmic tables, slide rule, Mollier charts, electronic pocket calculator and steam table is allowed.*
- 5) *Assume suitable data, if necessary.*

Q1) What do you mean by instrumentation? Draw a block diagram of generalized measurement system. Explain it with suitable example. **[10]**

OR

- Q2)** a) Differentiate between Analog and Digital instrument. **[5]**
b) Define all process variables and state their unit of measurement. **[5]**

- Q3)** a) Write short note on solid expansion thermometers. **[5]**
b) Explain with diagram, construction and working of Quartz thermometer. **[5]**

OR

- Q4)** a) Explain RTD with neat diagram. **[5]**
b) Explain Optical pyrometer with neat diagram. **[5]**

Q5) a) Explain construction, working principle and application of Bourdon tube. **[5]**

- b) What are transducers? Explain types of transducers. **[5]**

OR

- Q6)** a) Explain LVDT as pressure measuring device. **[5]**
b) What are different types of manometers? With neat sketch explain inclined leg manometer. **[5]**

