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Code No: **R32034** **R10** **Set No. 1**

III B.Tech II Semester Supplementary Examinations, April -2017

INSTRUMENTATION & CONTROL SYSTEMS

(Mechanical Engineering)

Time: 3 hours **Max. Marks: 75**

Answer any FIVE Questions

All Questions carry equal marks

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1	a)	Describe the terms (i) Linearity (ii) Calibration	[8M]
	b)	What is the relationship between sensitivity and range?	[7M]
2	a)	Explain the working principle of ionization and photo electric transducers, with neat sketches.	[8M]
	b)	What are pyrometers? Explain with neat sketches.	[7M]
3		Describe the construction, working and theory of Bourdon tube for measurement of pressures.Describe the C type, Helical type gauges with neat diagrams.	[15M]
4	a)	Explain with neat diagrams bubbler level indicators.	[7M]
	b)	What is a turbine flow meter? Discuss in detail.	[8M]
5	a)	Discuss about stroboscope in detail.	[8M]
	b)	Why accelerometers are used? Discuss.	[7M]
6	a)	Why measure surface strain? Discuss about temperature compensation in strain gauges.	[8M]
	b)	What are the different instruments used for static strain measurement. Discuss in detail with neat sketches.	[7M]
7	a)	Discuss in detail about Absorption psychrometer.	[7M]
	b)	With a neat sketch explain Elastic force meters.	[8M]
8		What are the elements of control system? Discuss about open system with block diagram.	[15M]

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