

Code No: **R32034**

R10

Set No. 1

III B.Tech II Semester Supplementary Examinations, November - 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) Differentiate between static and dynamic performance characteristics. | [8M] |
| | b) What are the sources of error? Explain the methods of elimination error. | [7M] |
| 2 | a) What is pyrometer? Briefly explain the working of optical pyrometer with suitable sketches. | [7M] |
| | b) Explain the working process of photo electric transducer. | [8M] |
| 3 | a) What are the advantages and disadvantages of the diaphragm gauges? | [7M] |
| | b) Explain with neat sketch, the working of a thermal conductivity gauge. | [8M] |
| 4 | a) Explain the ultrasonic liquid level gauge with a line diagram. | [7M] |
| | b) Sketch and explain the working of Hot wire anemometer. | [8M] |
| 5 | a) Explain the response of a seismic instrument to sinusoidal acceleration. | [7M] |
| | b) Explain the working of noncontact type tachometer. What are the applications of this instrument? | [8M] |
| 6 | a) What do you understand by strain gauge rosette and need for them.. | [7M] |
| | b) Explain foil type resistance strain gauge. | [8M] |
| 7 | a) Explain the working of a sling psychrometer with a neat sketch. | [7M] |
| | b) What is a Proving ring? How is it used to measure force? | [8M] |
| 8 | a) Differentiate between open loop and closed loop control systems. | [8M] |
| | b) Explain the applications of control systems with respect to governing of speed. | [7M] |

