

Total No. of printed pages = 2

CAI-612/II/6th Sem/2017/M

INDUSTRIAL INSTRUMENTATION

Full Marks – 70

Pass Marks – 28

Time – Three hours

The figures in the margin indicate full marks for the questions.

Answer any *five* questions.

1. (a) Explain the construction and working of any three types of load cell. 12
- (b) Calculate the pressure (in dyne / cm²) exerted on a stainless steel surface of area 10m², if a force of 12N is applied on it. 2
2. Explain the construction and working of any three types of electrical tachometer. 14
3. Explain the construction and working of the following :
 - (a) Strain gauge accelerometers 10
 - (b) LVDT accelerometer 4

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4. Explain the construction and working of any two indirect methods for low pressure measurement. 14
5. Explain the construction and working of the following :
- (a) Rotameter type viscometer 5
 - (b) Saybolt viscometer 5
 - (c) Capacitive pressure transducer. 4
6. Explain the following :
- (a) Optical pyrometer 4
 - (b) RID 5
 - (c) Thermistor. 5
7. (a) With a neat diagram, explain pressure measurement using LVDT and bellow. 7
- (b) Explain the following :
- (i) Resistive pressure transducer 3
 - (ii) Manometer. 4