



**KERALA AGRICULTURAL UNIVERSITY**  
**B.Tech.(Food Engg) 2016 Admission**  
**VI Semester Final Examination-June 2019**

Elen.3202

**Instrumentation and Process Control (2+1)**

**Marks: 50**

**Time: 2 hours**

**(10x1=10)**

**I Fill up the blanks**

- 1 The process of preventing or removing the signal contamination or distortion by unwanted signals is known as \_\_\_\_\_.
- 2 An instrument which has all the physical elements in one assembly is known as \_\_\_\_\_
- 3 Digital signals are those which have \_\_\_\_\_
- 4 Dial type pressure gauge is \_\_\_\_\_
- 5 While selecting an instrument for a given fluid which data pertaining to processing fluids is considered as \_\_\_\_\_.
- 6 Resistance thermometers are in common use within the temperature range \_\_\_\_\_
- 7 The purpose of installing a bleed with pressure gauge is to \_\_\_\_\_.
- 8 The smallest measureable input in a measuring instrument is called \_\_\_\_\_
- 9 The indicating instruments are \_\_\_\_\_.
- 10 The analog indicating instruments are \_\_\_\_\_.

**II Write short notes/answers etc on ANY FIVE**

**(5x2=10)**

- 1 Why negative feedback is invariably preferred in a closed loop system?
- 2 Characteristics of negative feedback.
- 3 Define signal to noise ratio.
- 4 Instrument efficiency
- 5 Damping force
- 6 Static correction
- 7 Prevost's theory

**III Answer any FIVE of the following.**

**(5x4=20)**

- 1 Block diagram and its basic components.
- 2 Errors and adjustments in induction type energy meter.
- 3 Ideal characteristics and applications of op amp
- 4 Derive the expression for scale changer, sign changer, differentiator and integrator.
- 5 Static characteristics of an Instrumentation system.
- 6 Distinguish between open loop and closed loop system
- 7 The lens of an optical pyrometer is clouded so that the transmission factor is 0.8. The instrument indicates a temperature of 1480°C. What is the true temperature?

**IV Answer any ONE of the following**

**(1x10=10)**

- 1 Flow meters.
- 2 Radiation receiving elements.

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