



KERALA AGRICULTURAL UNIVERSITY
B.Tech.(Food Technology) 2022 & Previous Admissions
VI Semester Final Examination – June 2025

Beas.3212

Instrumentation and Process Control in Food Industry (2+1)

Marks: 50
Time: 2 hours

I Fill in the blanks

(10x1=10)

1. is defined as the nearness of the indicated value to the true value of the quantity being measured.
2. is the force per unit area exerted by the fluid on the walls of its containers.
3. Capacitive transducer is an example of atransducer.
4. is an example of a final control element.

Answer the following

5. Expand MIMO.
6. What is process control?
7. What is refractometer?

Define the following

8. Transducers
9. Humidity
10. Volumetric flow rate

II Write short notes on ANY FIVE of the following

(5x2=10)

1. What is Seebeck effect?
2. What are the various pressure scales used for measuring pressure?
3. What is specific gravity?
4. Define density. What are the methods of density measurement?
5. What are actuators?
6. Give a brief account of the various controller modes.
7. What is Ladder diagram?

III Answer ANY FIVE of the following

(5x4=20)

1. How moisture content is measured using infrared technique?
2. What is the principle of magnetic flow meters?
3. Explain turbidity measurement.
4. Explain the final control elements.
5. What are the advantages of frequency response analysis?
6. Briefly explain discrete controllers.
7. Explain the computer based monitoring and control of the withering process in the tea industry.

IV Write an essay on ANY ONE of the following

(1x10=10)

1. Explain the static and dynamic characteristics of instruments.
2. Explain the role of transducers in food processing and also give a brief account of the various self generating transducers.
