

B.E. Instrumentation Engineering (Model Curriculum) Semester-VII
IN704M2 - Instrumentation in Agriculture and Food Industries

P. Pages : 1



GUG/W/23/14260

Time : Three Hours

Max. Marks : 80

- Notes :
1. All questions carry marks as indicated.
 2. Due credit will be given to neatness and adequate dimensions.
 3. Assume suitable data wherever necessary.

1. a) Write short notes on soil pH and soil temperature. **8**
b) What is electrical conductivity of soil? What factors affect the EC of soil? State importance of conductivity. **8**

OR

2. a) What is remote sensing? State application of remote sensing. **8**
b) What is the necessity of instrumentation in the food industry? **8**

3. a) What are pesticides? How are pesticides manufactured? **8**
b) What are the steps for juice extraction? **8**

OR

4. a) What is the dairy industry? What are the steps in milk processing. **8**
b) Explain different methods for oil extraction. **8**

5. a) What is water distribution? State different types of water distribution. **8**
b) Explain briefly about upstream control system. **8**

OR

6. a) What is the role of SCADA in DAM management? **8**
b) Explain briefly different steps for water management and state objective of water management. **8**

7. a) What is earth moving equipment? State different types of earth moving equipment and their function. **8**
b) What is hydraulic and pneumatic system? Write difference between hydraulic and pneumatic system. **8**

OR

8. a) Explain briefly different types of cold storage system? State problem associated with the cold storage system. **8**
b) Write short notes on farm automation in agriculture. **8**

9. a) What is smart grid? What are the challenges in expanding smart grid technology. **8**
b) What is non- conventional energy? Discussed briefly about solar power. **8**

OR

10. a) What is a greenhouse? How does the greenhouse effect work? **8**
b) Write short notes on CO₂ enrichment in greenhouse. **8**
