

Total No. of Questions : 10]

SEAT No. :

P4007

[4959]-1212

[Total No. of Pages : 2

B.E. (Instrumentation)

**b:INSTRUMENTATION IN AGRICULTURE AND FOOD PROCESSING
(2012 Course) (Semester - II) (Elective -IV)**

Time : 2½ Hours]

[Max. Marks : 70

Instructions to candidates:

- 1) *Answers Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8, Q9 or Q10.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right side indicate full marks.*
- 4) *Assume suitable data if necessary.*

Q1) a) Explain the Role of Instrumentation in Agriculture engineering. **[5]**

b) Discuss the Index properties of Soil. **[5]**

OR

Q2) a) Write a note on Hygrometer. **[5]**

b) Write a note on Bio sensor. **[5]**

Q3) a) Explain the instrumentation for Sugar plant. **[7]**

b) Draw flow diagram of Dairy Industry. **[3]**

OR

Q4) a) Explain concept of irrigation scheduling and Irrigation efficiencies. **[6]**

b) Explain Micro Irrigation system. List out the applications. **[4]**

Q5) a) Write a note on: Agrometrological instrumentaion weather stations. **[8]**

b) Write a note on: soil water content measurement using time-domain reflectrometry (TDR). **[8]**

OR

P.T.O.

- Q6)** a) Explain selection criteria for pump in detail. Explain installation of pump. [8]
b) Explain implementation of hydraulic control circuit use in harvesters cotton pickers. [8]

- Q7)** a) Explain different standards in Food processing. [8]
b) Define the recommended international code of hygiene for various products in food processing. [8]

OR

- Q8)** a) Design considerations for cold storage system. [8]
b) Define Food quality measurement? Explain in short norms in food safety. [8]

- Q9)** a) Explain in detail Application of PLC in food packing industry. [10]
b) Write a note on: Equipments for creating and maintaining controlled atmosphere. [8]

OR

- Q10)** a) Explain in detail Application of SCADA in food packing industry. [10]
b) Discuss the Trends in modern food processing. [8]

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