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Question Paper Code: 39607

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2018

Seventh Semester

Instrumentation and Control Engineering

01UIC907 - INSTRUMENTATION FOR AGRICULTURE

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Mention the significance of Instrumentation in food processing.
2. List the parameters that ensure relevant food quality.
3. Define the term resistivity of soil.
4. Write short note on ion concentration measurement in soil.
5. Differentiate between continuous and batch process.
6. Outline the importance of evaporator control in a sugar plant.
7. Sketch the flow diagram of cream pasteurization section.
8. Define SCADA.
9. State the necessity of data logging in instrumentation.
10. Define CV.

PART - B (5 x 16 = 80 Marks)

11. (a) Explain the working principles of Biosensors utilized in the areas of food processing and agriculture. (16)

Or

- (b) Explain in detail about the role play of telemetry and remote sensing in agriculture instrumentation. (16)

12. (a) Describe the measurements components involved in soil analysis and fertility assurance. (16)

Or

- (b) Analyze the various techniques employed for soil analysis. (16)

13. (a) Draw the flow diagram of sugar plant process and explain the various instrumentation setup in it. (16)

Or

- (b) Sketch and explain the operation of instrumentation in oil extraction industry. (16)

14. (a) Explain in detail about the basic building blocks of computer controlled SCADA system. (16)

Or

- (b) Explain application of SCADA system of water distribution and management controls. (16)

15. (a) Describe the process of carbon dioxide enrich measurement in green houses. (16)

Or

- (b) Define green house gases and discuss green house technology and its applications. (16)