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18EI822

Eighth Semester B.E. Degree Examination, July/August 2022 **Industrial Process Instrumentation**

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. With a neat panoramic flow diagram, explain the Instrumentation involved in the Canning Industry. (10 Marks)
- b. With a neat diagram, explain Control System for Blancher employing dual temperature control. (10 Marks)

OR

- 2 a. Draw the diagram and explain "Onbelt" Color Scanning System used in Baking oven control system. (10 Marks)
- b. With a neat diagram, explain the working of Spray – dryer control system. (10 Marks)

Module-2

- 3 a. With neat sketches, explain importance of bleaching instrumentation in Paper industry. (10 Marks)
- b. With neat diagram, explain Stock dye additive proportioning used in Modern Pulp blending system. (10 Marks)

OR

- 4 a. Mention the general types of Paper machines. (02 Marks)
- b. Explain with a neat diagram, the working of Alkaline pulp washing system. (10 Marks)
- c. Draw a neat diagram of Fourdrinier wet end instrumentation system. (08 Marks)

Module-3

- 5 a. List out Input and Control parameters used for Optimized control of rotary Kiln in Kiln automation. (10 Marks)
- b. With a neat block diagram, explain RAMPA X = KC Control Module Structure. (10 Marks)

OR

- 6 a. With a neat block diagram, explain function of X – ray analyzer and DDC in blending system control used in raw mill automation. (10 Marks)
- b. With a neat schematic diagram, explain Clinker burning control and Clinker cooling control used in Kiln automation employed in cement plant. (10 Marks)

Module-4

- 7 a. Draw a neat block diagram of Automation system used in Thermal Power Plant. List out the basic feature of Thermal Power Plant. (10 Marks)
- b. With a neat block diagram, explain Control equipment and Applications in Power Plant Automation. (10 Marks)

OR

- 8 a. With a neat block diagram, explain Automatic Boiler Control System. (10 Marks)
b. With a neat block diagram, explain Adaptive Control System for Variable pressure control power plant. (10 Marks)

Module-5

- 9 a. List and explain Automation Strategy at different levels in steel plant. (10 Marks)
b. With the neat flow diagram, explain Raw Materials handling and blending configuration in steel plant. (10 Marks)

OR

- 10 a. List out and explain main constituents of blast furnace. With the neat diagram, explain blast furnace supervision and control. (10 Marks)
b. With the neat flow diagram, explain LD Converter Supervision and Control in steel zone. (10 Marks)

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