

**6613**  
**BOARD DIPLOMA EXAMINATION**  
**MARCH/APRIL - 2019**  
 \* **DIPLOMA IN APPLIED ELECTRONICS AND INSTRUMENTATION**  
**INSTRUMENTATION IN PROCESS INDUSTRIES**  
**FIFTH SEMESTER EXAMINATION**

**Time: 3 Hours**

**Total Marks: 80**

**PART - A (3m x 10 = 30m)**

*Note 1: Answer all questions and each question carries 3 marks*

*2: Answers should be brief and straight to the point and shall not exceed 5 simple sentences*

1. State the principle of power generation in hydroelectric power plant
2. List the important variables that need to be measured in thermal power plant
3. List different types of level sensors /instruments in a thermal power plant
4. Draw a typical combustion system of a boiler
5. Define Polymerization
6. Define continuous distillation column
7. List any three types of furnaces used in ISP
8. Draw the diagram of electric furnace
9. List any three types of paper products
10. Define the term pulp.

**PART - B (10m x 5 = 50m)**

*Note 1: Answer any five questions and each carries 10 marks*

*2: The answers should be comprehensive and the criteria for valuation is the content but not the length of the answer*

11. Explain the general layout of Wind power plant with diagram
- \* 12. Explain series fuel – air ratio control with diagram
13. Explain single element drum level control of boiler with a diagram
14. Explain the working of batch distillation column with a diagram
15. Explain flow scheme of steel production with diagram.

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16A. Explain the following unit operations

- a) Alkalization
- b) Isomerization

B. Draw the diagram of measurement of molten metal level

17. Explain the mechanical pulping process with block diagram

18. Explain chemical pulping process with block diagram

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