



C16-AEI-505

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BOARD DIPLOMA EXAMINATION, (C-16)

MARCH/APRIL—2021

DAEI - FIFTH SEMESTER EXAMINATION

INSTRUMENTATION IN PROCESS INDUSTRIES

Time : 3 hours ]

[ Total Marks : 80

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PART—A

3×10=30

- Instructions :** (1) Answer **all** questions.  
(2) Each question carries **three** marks.  
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. Write the principle of power generation in hydroelectric power plant.
2. State the turbine shaft vibration.
3. List different types of level sensors/instruments in a thermal power plant.
4. List any three important variables that need to be measured in thermal power plant.
5. List any three physical parameters to be measured in distillation column.
6. Define the term distillation column.
7. Draw the diagram of oxygen furnace.
8. List any three types of furnaces used in Iron and Steel Plant.
9. List any three physical properties of paper.
10. List the various types of paper products.

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**PART—B**

10×5=50

**Instructions :** (1) Answer *any five* questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

11. Explain the general layout of thermal power plant with diagram.
12. Explain the block diagram of boiler process in thermal power plant with diagram.
13. Explain furnace draft control with diagram.
14. Explain the following unit operations :
  - (a) Thermal cracking
  - (b) Catalytic cracking
  - (c) Polymerization
15. (a) Draw the general layout of a Petrochemical plant.  
(b) Draw flow chart of steel production.
16. Explain the measurement of molten metal level with diagram.
17. Explain chemical pulping process with block diagram.
18. Explain the controlling of paper thickness with diagram.

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