

B.E. Instrumentation Engineering (Model Curriculum) Semester-V
IN501M1 - Unit Operation Power Plant Instrumentation

P. Pages : 2

Time : Three Hours



GUG/W/23/14019

Max. Marks : 80

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- Notes :
1. All questions carry marks as indicated.
 2. Due credit will be given to neatness and adequate dimensions.
 3. Assume suitable data wherever necessary.
 4. Same answer book must be used for each section.

1. a) Name the distinct modes of heat transfer and describe the basic laws associated with it. 8
- b) What is the significance of unit operations in power plant? 8

OR

2. a) Categorize the various heat exchangers and review each with neat diagram. 8
- b) Describe the importance of heat transfer in chemical engineering processes. 8
3. a) Enlist the various grinding machines (Mills) and explain any two in detail. 8
- b) Explain Gas absorption and distillation as mass transfer processes. 8

OR

4. a) Discuss drying with principle of operation & classification. And review the various patterns of gas-solid interactions in dryers. 8
- b) Explain the process of Batch and continuous distillation. 8
5. a) Describe the Solar Pond electric power plant with cooling tower. 8
- b) Discuss “Green house” and elaborate different designs of green houses. 8

OR

6. a) Compare hydro power plants with thermal power plants. 8
- b) Write short note on: 8
- a) Solar Cooker
- b) Solar water pump
7. a) Sketch and explain general layout of a thermal power plant. 8
- b) Give in own words “Present status of power generation in India.” 8

OR

8. a) Classify and describe the different ash handling system with the relative merits and demerits. 8
- b) Give the classification of boiler. Explain any one in detail. 8
9. a) Classify turbine and explain the internal construction of anyone. 8
- b) Differentiate between impulse and reaction turbine. 8

OR

10. a) Predict the causes of corrosion and scale formation in condenser tubes and discuss the different methods used for their prevention. 8
- b) Define Dalton's law of partial pressure and explain how it applies to a condenser of steam power plant. 8
