

B.E. Instrumentation Engineering (MODEL CURRICULUM) Sem-V
IN501M1 : Unit Operation & Power Plant Instrumentation

P. Pages : 1

GUG/W/22/14019

Time : Three Hours



Max. Marks : 80

- 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. Illustrate your answers wherever necessary with the help of neat sketches.

1. a) None the distinct modes of heat transfer and describe the basic laws associated with it. 8
b) Clarify the selection criteria for the heat exchangers. 8

OR
2. a) Describe the importance of heat transfer in chemical engineering process. 8
b) What is the significance of unit operations in power plant. 8
3. a) Explain evaporation & condensation as heat transfer process. 8
b) Illustrate the process of batch & continuous distillation. 8

OR
4. Write short notes on : 16
i) Flash Distillation. ii) Different Method of drying. iii) Grinding mills.
5. a) Identify & outline the importance of conventional & non-conventional energy sources available. 8
b) Show the layout & explain the process of continuous & batch type biogas plant. 8

OR
6. a) Compare thermal power plant with nuclear power plant. 8
b) Discuss with neat sketch the working of wind energy conversion system (WECS). 8
7. a) Sketch general layout of a thermal power plant and explain the working of different cycles in layout. 8
b) Discuss “draught” with its classification in detail. 8

OR
8. a) Discuss in detail interlocks in boiler. 8
b) Give in own words “Present status of power generation in India”. 8
9. a) Classify turbine & explain the internal construction of any one. 8
b) Discuss safety system in turbines. 8

OR
10. a) Describe the various methods used to obtain the maximum possible vacuum in condensers used in modern power plant. 8
b) Predict the causes of corrosion and scale formation in condenser tubes & discuss the different methods use for their prevention. 8
