

Roll No.

Total Pages : 02

BT-7/M-20

37228

PROCESS PLANT UTILITIES

CHE-409N

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit.

Unit I

1. (a) Discuss various water resources. 7
(b) Mention the various impurities present in water and their sources. Also write the effects of various impurities on vegetation. 8
2. (a) What do you mean by water conditioning ? Discuss two methods for it. 8
(b) Write a note on “Recycling aspects of water”. 7

Unit II

3. Give the classification of boilers. Explain the construction and working of fire tube boiler along with its advantages and disadvantages. 15

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4. Discuss the following : 15
(a) Boiler accessories
(b) Condensate utilization.

Unit III

5. Write the principle, design and working of rotary compressor. 15
6. (a) Explain the construction and working of a barometric condenser. 8
(b) Write a note on “piping systems”. 7

Unit IV

7. Discuss the types of internal combustion engines with a neat diagram. Also write their applications. 15
8. Write detailed notes on the following : 15
(a) Refrigeration cycles
(b) Cogeneration.