

BACHELOR OF CHEMICAL ENGINEERING EXAMINATION, 2017 (Old)

(2nd Year, 2nd Semester)

CHEMICAL TECHNOLOGY I

Time: Three hours

Full Marks: 100

Answer any ten questions

10×10

1. How cooling tower water gets 'fouled'? What are the advantages and disadvantages of Ozone Treatment for Cooling Tower water?
2. Discuss the steps of water clarification.
3. What are the advantages and disadvantages of water aeration?
4. With the help of a sketch explain the operation of a SO₂ to SO₃ converter in DCDA process.
5. Discuss the Mannheim process for hydrochloric acid manufacture (flowsheet not required).
6. Discuss how high-strength nitric acid (98 to 99 percent concentration) can be obtained by concentrating the weak nitric acid.
7. In a chlor-alkali plant explain how a Membrane cell operates.
8. Discuss the chlorine handling section of a chlor-alkali plant.
9. Discuss the "Dry Process" of cement manufacturing.
10. Discuss the Single Superphosphate manufacturing process.
11. Discuss the ammonia synthesis loop with nitrogen and hydrogen as feed.