



SE-6721

B. E. III (Sem - V) (Chemi.) Examination
May / June - 2011

General Chemical Technology - I

Time : 3 Hours]

[Total Marks : 100

Instructions :

(1)

नीचे दृष्टावेक निशानीवाणी विगतो उत्तरवही पर अवश्य बपवी.
Fillup strictly the details of signs on your answer book.

Name of the Examination :
B. E. 3 (Sem - 5)

Name of the Subject :
General Chemical Technology - 1

Subject Code No. : 6 7 2 1 Section No. (1, 2,.....): Nil

Seat No. :

Student's Signature

- (2) Attempt all the questions.
(3) Figures to the right indicate full marks.
(4) Draw neat - clean labelled flowsheet wherever required.

- 1 (a) Answer the following : 10
- (1) What do you mean by 65% oleum ?
(2) Differentiate : Distilled and mineral water
(3) What is biuret in urea ?
(4) Write the formula of soda ash and caustic soda.
(5) Explain concept of reverse osmosis.
- (b) Discuss major engineering problems associated with the production of urea. 8
- 2 Attempt any two : 16
- (a) Describe manufacturing of H_2SO_4 by DCDA process.
(b) Explain manufacturing of caustic and chlorine with flow diagram.
(c) Explain Ion-exchange process for water softening.

- 3 Attempt any two : 16**
- (a) Explain manufacturing process of urea with flow diagram.
 - (b) Describe Solvay's process for the manufacture of sodium carbonate.
 - (c) Explain with a flow sheet any one method of recovery and treatment of natural gas and LPG.
- 4 (a) Answer the following :**
- (1) Give the applications of silicate cements. 1
 - (2) Enlist the principal raw materials used for magnesium production by electrolysis. 1
 - (3) Enlist the sizing agents used in paper manufacturing. 1
 - (4) What is NSSC ? 1
 - (5) What is the function of zeolote in detergent ? 1
 - (6) What is Bagasse ? 1
 - (7) Define the term "Surfactants." 2
 - (8) What are the advantages of hydrogenation oil. 2
i.e. the changes caused to oil ?
- (b) Explain the hydrogenation of vegetable oil with a neat flow diagram. 8
- 5 Attempt any two : 16**
- (a) Explain in detail extraction of sucrose from sugar cane.
 - (b) Explain production of magnesium from magnesium chloride.
 - (c) Compare sulfate and sulfite pulping process for cellulose fibers.
- 6 Answer the following : (any four) 16**
- (a) Write a short note on Suds regulator.
 - (b) Explain with a sketch kinetic resistance involved in hydrogenation of oil.
 - (c) Short note hyproduct utilization of pulp and paper industry.
 - (d) Discuss evaporation and crystallization as major engineering problems for sugar manufacturing.
 - (e) Short note : Safety glass