



SE-8041

B. E. - II (Sem. III) (Chemical) Examination
May / June - 2011
Chemical Process Industries-I

Time : 3 Hours]

[Total Marks : 100

Instructions :

(1)

नीचे दृष्टावेव निशानीवाणी विगतो उत्तरवडी पर अवश्य लक्षवी. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
<input type="text" value="B. E. - II (Sem. III) (Chemical)"/>	<input type="text"/>
Name of the Subject :	<input type="text"/>
<input type="text" value="Chemical Process Industries - 1"/>	<input type="text"/>
Subject Code No. : <input type="text" value="8"/> <input type="text" value="0"/> <input type="text" value="4"/> <input type="text" value="1"/>	<input type="text"/>
Section No. (1, 2,...): <input type="text" value="Nil"/>	<input type="text"/>
	Student's Signature

- (2) Attempt all the questions.
(3) Figures to the right indicate full marks.
(4) Assume suitable data if necessary.

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

- 3** Attempt any two: **16**
- (i) Explain manufacturing process of urea with flow diagram.
 - (ii) Describe Solvay's process for the manufacture of sodium carbonate.
 - (iii) Explain the municipal raw water treatment plant with flow diagram.
- 4** (a) Answer the following : **10**
(Question i to vi carries one mark each)
- (i) What are sources of production of SO_2 ?
 - (ii) Define pulp.
 - (iii) Define Glass.
 - (iv) What is PETN ?
 - (v) What is microfilming ?
 - (vi) Which gases are called speciality gases ?
 - (vii) Write steps of Kraft's process.
 - (viii) State importance of diamond in industries.
- (b) What is Portland cement ? Describe in detail **10**
manufacturing of Portland cement; discuss its major engineering problems.
- 5** Attempt any two : **16**
- (a) Describe in detail manufacturing of glass with flow diagram.
 - (b) Describe in detail Kraft's process with neat flow diagram.
 - (c) Write in detail regarding photo processing chemicals used in black and white photographs.
- 6** Attempt and two : **14**
- (a) What are explosives ? Explain in detail classification of explosives.
 - (b) Write notes on :
 - (i) Safety glass
 - (ii) Raw materials for glass manufacture
 - (c) Discuss setting and hardening of cement.