



UF-8041
B. E. - II (Sem. III) (Chemical) Examination
May / June - 2012
Chemical Process Industries - I
(New Syllabus)

Time : 3 Hours]

[Total Marks : 100

Instructions :

<p>નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી. Fillup strictly the details of signs on your answer book.</p> <p>Name of the Examination : B. E. - 2 (SEM. 3) (CHEMICAL)</p> <p>Name of the Subject : CHEMICAL PROCESS INDUSTRIES - 1 (NEW)</p> <p>Subject Code No. : 8 0 4 1 Section No. (1, 2,.....): NIL</p>	<p>Seat No. : <input type="text"/><input type="text"/><input type="text"/><input type="text"/><input type="text"/><input type="text"/></p> <div style="border: 1px solid black; border-radius: 15px; padding: 10px; text-align: center; width: 100%;">Student's Signature</div>
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- (2) Attempt all questions.
- (3) Figures to the right indicate full marks.
- (4) Draw neat-clean diagram wherever necessary.

- 1 (a) Answer the following : 10
 - (i) Give the application of phosphoric acid.
 - (ii) What do you mean by 65% oleum ?
 - (iii) Write the formula soda ash and caustic soda.
 - (iv) What is biuret in urea ?
 - (v) Difference between softwater and hard water.
- (b) List the various methods for treatment of water. 8

- 2 Attempt any two : 16
 - (a) Discuss in detail the manufacture of Sodaash by solvay process. Also discuss advantages and disadvantages of this process.
 - (b) Discuss Frasch process for mining of sulfur.
 - (c) Discuss major engineering problems associated with the production of urea.

- 3** Attempt any **two** : **16**
- (a) Define the term desalination. Describe desalination by electro dialysis process with a neat-clean diagram.
 - (b) Describe manufacturing of H_2SO_4 by DCDA process.
 - (c) Classify different methods of production of nitric acid.
- 4** (a) Attempt the following : **10**
- (i) Enlist the methods for the commercial production of carbon dioxide.
 - (ii) What are the uses of Activated carbon ?
 - (iii) Enlist the principal types of Portland cement.
 - (iv) Define : Glass.
 - (v) Why sizing is added to paper ?
- (b) Enlist different routes of Hydrogen production. **8**
Compare the same in detail.
- 5** Attempt any **two** : **16**
- (a) Compare in detail chemical pulping process for cellulose fibers.
 - (b) Explain with a neat flow diagram manufacturing of Magnesium compounds from sea water.
 - (c) With the help of a flowchart explain manufacturing of artificial graphite electrode.
- 6** Attempt the following : (any **four**) **16**
- (a) Write a short note : Industrial Diamonds.
 - (b) Explain in brief : Whitewares.
 - (c) Explain in brief : Safety glass.
 - (d) Write a short note : Explosive characteristics.
 - (e) Explain : Specialty papers.
 - (f) Enlist the special applications of photography and explain any one in brief.