



KC-8041

B. E. II (Sem. III) (Chemical) Examination
November/December – 2012
Chemical Process Industries - I
(New Course)

Time : 3 Hours]

[Total Marks : 100

Instructions :

(1)

नीचे दृशावेव निशानीवाणी विगतो उत्तरवही पर अवश्य लपवी. 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 - I (New)"/>	<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"/>	
Student's Signature	

- (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) Hardness of water is due to _____ and _____ salt.
- (ii) List use of caustic soda.
- (iii) Write the formula of urea and Bleaching Powder.
- (iv) Caustic soda is produced in mercury cell having anode and cathode made respectively of _____ and _____.
- (v) Sulfuric acid produced by contact process is _____ and _____.
- (b) Discuss the manufacture process of Ammonia. 8
- 2 Attempt any two : 16
- (a) Explain the working and design of the diaphragm cell. List out the merits and demerits of diaphragm cell compared to other electrolyte cell.
- (b) Discuss the manufacturing of phosphoric acid by wet process.
- (c) Explain waste water treatment by activated sludge process. Discuss treated effluent disposal management.

- 3** Attempt any two : **16**
- (a) Explain manufacturing of caustic and chlorine with flow diagram.
 - (b) Describe briefly giving chemical reactions the methods of obtaining sulfur from pyrites and hydrogen sulfide.
 - (c) Explain Ion-exchange process for water softening.
- 4** (a) Attempt the following : **10**
- (i) Enlist the principal uses of carbon dioxide.
 - (ii) Natural Graphite is classified as _____ and _____.
 - (iii) Define : Portland Cement.
 - (iv) What is Fotoform ?
 - (v) Write down the reaction of RDX formation.
- (b) Explain with a neat flow diagram manufacturing of Magnesium compounds from sea water. **8**
- 5** Attempt any two : **16**
- (a) Explain in detail with a flow diagram : Carbon black furnace process.
 - (b) With a neat flowchart explain China Clay beneficiation.
 - (c) Explain with a neat flow diagram manufacturing of paper.
- 6** Attempt the following : (any four) **16**
- (a) Write a short note : Thermomechanical pulping.
 - (b) Explain in brief : Blasting agents and slurry explosives.
 - (c) Enlist the special applications of photography and explain any one in brief.
 - (d) Enlist the manufacturing procedure of Glass : Explain any one in detail.
 - (e) Discuss Major engineering problems involved in manufacturing of Portland cement.
 - (f) Discuss : Purification and separation of Helium.
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