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SE-6131

B. E. - II (Sem. III) (Chemical) Examination

May / June – 2011

Unit Process

(New Course)

Time : **3** Hours] [Total Marks : **100**

Instructions :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ **B. E. - 2 (Sem. 3) (Chem.)**

Name of the Subject :

☛ **Unit Process (New)**

☛ Subject Code No. : **6 1 3 1** ☛ Section No. (1, 2,.....) : **Nil**

Seat No. :

Student's Signature

(2) Give chemical reactions and draw neat diagram with parameters.

(3) Figures to the right indicate full marks.

(4) All notations carry their usual meanings.

1 (a) Answer the following : **10**

(1) Enlist reduction methods for preparation of amines.

(2) Define Halogenation and discuss different halogenating agents.

(3) Give Sandmayer reaction.

(4) What is photohalogenation ? Give example for the same.

(b) Discuss manufacturing of nitro-benzene by continuous nitration with fortified spent acid. **8**

2 Attempt any **two** : **16**

(a) Describe sulfonation of diethyl ether.

(b) What is amination by reduction ? Discuss various chemical and physical factor affecting on amination by reduction.

(c) Discuss various types of sulfonations with neat diagram.

3 Attempt any **two** : **16**

(a) Sulfonation of benzene with neat flowsheet.

(b) Manufacture of vinyl chloride from EDC via thermal route with neat diagram.

(c) What is chemical process kinetics ? Discuss factors affecting it.

4 (a) Answer the following : **10**

(i) Define hydrolysis with example.

(ii) Enlist methods of hydrogen production from hydrocarbons.

(iii) List catalyst used for amination by amonolysis processes.

(iv) What is oxidation ? Give example.

(v) Classify polymerization.

(b) Discuss hydrolysis of starch with neat flow diagram. 8

5 Attempt any **two** : **16**

(a) Differentiate steam reforming and partial oxidation processes.

(b) Discuss manufacturing of aniline from chlorobenzene with neat flow diagram.

(c) Describe vapor phase oxidation of methanol to formal dehyde.

6 Attempt any **two** : **16**

(a) What is polymerization ? Discuss suspension and emulsion polymerization in detail.

(b) Write short notes on :

(i) Effect of temperature and pressure on hydrolysis.

(ii) Differentiate hydrogenation and hydrolysis.

(c) Answer the following :

(i) Discuss steps for polymerization process.

(ii) Factor affecting amonolysis process.
