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RN-6131

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

May / June - 2010

Unit Process

Time : 3 Hours]

[Total Marks :

Instructions :

(1)

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| नीचे दर्शाविए निशानीवाणी विगतो उत्तरवडी 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. - 2 (Sem. 3) (Chemical)"/> | <input type="text"/> |
| Name of the Subject : | <input type="text"/> |
| <input type="text" value="Unit Process"/> | <input type="text"/> |
| Subject Code No. : <input type="text" value="6"/> <input type="text" value="1"/> <input type="text" value="3"/> <input type="text" value="1"/> | <input type="text" value="Student's Signature"/> |
| Section No. (1, 2,.....) : <input type="text" value="1&2"/> | |

- (2) Answer different sections in **different** answer books.
- (3) Give chemical reactions and draw neat diagram with parameters.
- (4) Figures to the right indicate full marks.
- (5) All notations carry their usual meanings.

SECTION - I

- 1 (a) Answer the following : 10
 - (i) State various sulfonating agents.
 - (ii) Name of Nitrating agents used.
 - (iii) Application of amination by reduction.
 - (iv) Define DVS value and Nitric ratio.
 - (v) Define Halogenation and sulfonation.
- (b) Write note on Biazzi nitrator. 8
- 2 Attempt any **two** : 16
 - (a) Discuss different halogenating agents. Give sandmayer reaction.
 - (b) Manufacturing of vinyl chloride from ethylene by alkali route.
 - (c) Describe sulfonation of diethyl ether.

- 3** Attempt any **two** : **16**
- (a) Define unit process and unit operations. Give at least six examples of each.
 - (b) Define nitration and discuss manufacturing of mononitrobenzene by continuous nitration of benzene with 63% conc. HNO_3 .
 - (c) Discuss various types of sulfonations with neat clean diagram.

SECTION - II

- 4** (a) Attempt the following : **5×2=10**
- (i) Define oxidation and state oxidizing agents.
 - (ii) List catalyst used in ammination reaction in ammonolysis.
 - (iii) What is alkali hydrolysis? Explain with example.
 - (iv) Give examples of thermoplastic and thermosetting plastics.
 - (v) By which process ethanol is produced also give chemical reactions?
- (b) Define polymerization. State and explain various **8**
methods of polymerization in homogeneous phase.
- 5** Answer the following : (any **two**) **8×2=16**
- (a) Differentiate between steam reforming and partial oxidation for hydrogen production.
 - (b) Discuss manufacturing of aniline from chlorobenzene.
 - (c) Explain the following :
 - (i) Catalytic hydrogenation of olefins and aromatics.
 - (ii) List various sources of hydrogen production.
- 6** Answer the following : (any **two**) **8×2=16**
- (a) Explain manufacturing of acetic acid from acetaldehyde.
 - (b) Discuss manufacturing of phenol from benzene sulfonic acid will all process parameters.
 - (c) Discuss :
 - (i) Importance of any two oxidizing agent.
 - (ii) Effect of pressure and temperature on hydrolysis.