



UH-6131

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

May / June - 2012

Unit Process

(Old Course)

Time : 3 Hours]

[Total Marks : 100

Instructions :

(1)

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| नीचे दृष्टावेक 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) (Chem.)"/> | <input type="text"/> |
| Name of the Subject : | <input type="text"/> |
| <input type="text" value="Unit Process (Old)"/> | <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="Nil"/> | |

- (2) Give chemical reactions and neatly draw diagram with necessary parameters wherever required.
- (3) Figures to the right hand side indicate full marks.
- (4) Process parameters must be highlighted if applicable.

- 1 (a) Answer the following : 10
- (i) Define Halogenation and sulfonation with examples.
- (ii) State sandmayer and Gattermann reaction for halogenation.
- (iii) Enlist the nitrating agents used for nitration with chemical reaction for each.
- (iv) Define DVS Value.
- (v) State various sulfonating agents.
- (b) Write short note on Schmid Nitrator. 8
- 2 Attempt any two : 16
- (a) Discuss the manufacture of Nitrobenzene from benzene by continuous nitration with fortified spent acid.
- (b) What is amination by reduction ? Discuss various chemical and physical factors affecting an amination by reduction.
- (c) Describe sulfonation of diethyl ether.

- 3** Attempt any two : **16**
- (a) Explain Ball mill sulfonator with neat-clean diagram.
 - (b) Discuss the manufacturing of DDT from chloral with a neat-clean flow diagram.
 - (c) Define unit process and unit operations. Give at least six example of each.
- 4** (a) Answer the following : **10**
- (i) Define oxidation and state oxidizing agents.
 - (ii) List catalyst used in amination 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** Attempt any two : **16**
- (a) Differentiate between steam reforming and partial oxydation 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** Attempt any two : **16**
- (a) Explain manufacturing of aceticacid 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.
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