

[61/A-21]

SEAT No. _____

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Sardar Patel University

S. Y. B. Sc. Examination
(Semester – III)

Date & Day: 20-11-2018, Tuesday

Time: 02:00 to 05:00pm

Industrial Chemistry Vocational

COURSE: US03CICV01 (UNIT PROCESSES)

Notes: Figures to the right indicate full marks.

Total marks: 70

Q. 1 Answer the following Multiple Choice Questions. (All are compulsory) (10)

- Mix. Acid used for nitration is a mixture of
A. $\text{HNO}_3 + \text{H}_2\text{SO}_4$
B. $\text{CH}_3\text{COOH} + \text{HCl}$
C. $\text{HNO}_3 + \text{HCl}$
D. All of them.
- The kinetic of nitration process depends upon
A. Compound to be nitrated
B. H_2SO_4 conc.
C. HNO_3 conc.
D. Amount of H_2O .
- Nitration is _____ reaction.
A. Nucleophilic substitution reaction
B. Electrophilic substitution reaction
C. Electrolysis reaction
D. None of them.
- Sulfonation involved placement of
A. $\text{R-O-SO}_2\text{OR}$
B. $-\text{OSO}_2\text{OH}$
C. $-\text{OSO}_2\text{NA}$
D. None of them.
- Fuming sulfuric acid is.....
A. $\text{H}_2\text{SO}_4 + \text{SO}_3$
B. $\text{H}_2\text{SO}_4 + \text{Cl}$
C. $\text{H}_2\text{SO}_4 + \text{H}_2\text{O}$
D. None of them.
- Introduction of RNHSO_2ONa are termed as.....
A. N-Sulfonate
B. Sulfoxidation reaction
C. Sulfochlorination reaction
D. All of them.
- In addition reaction, $\text{H}_2\text{C}=\text{CH}_2 + \text{Br}_2 \longrightarrow ?$
A. $\text{H}_3\text{C}-\text{CH}_2-\text{Br} + \text{HBr}$
B. $\text{Br}-\text{CH}_2-\text{CH}_2-\text{Br}$
C. $\text{H}_3\text{C}-\text{CH}(\text{Br})-\text{Br} + \text{H}_2$
D. None of them.
- In halogenation reactions, the reactivity order are as.....
A. $\text{Cl} > \text{Br} > \text{I} > \text{F}$
B. $\text{F} > \text{Cl} > \text{Br} > \text{I}$
C. $\text{Cl} > \text{F} > \text{Br} > \text{I}$
D. $\text{F} < \text{Cl} < \text{Br}$
- _____ raw material is used for manufacturing of Ethyl acetate.
A. Acetic acid & Alcohol
B. Acetic acid & Ethanol
C. Both of theme
D. None of these.
- The temperature of esterification in ethyl acetate manufacturing is
A. 80°C
B. 70°C
C. 180°C
D. 270°C

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(P.T.O)

US03CICV01

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Q.2 Answer the following short questions. (Any TEN)

(20)

1. What are functions of H_2SO_4 in Nitration reaction?
2. Define the term Oxy-nitration and write suitable example.
3. List out the methods of preparing primary amine.
4. Define the term Oxidation Reaction.
5. Write a mechanism of Sulfonation reaction.
6. Give an example of "Peroxidation".
7. Write a reaction for "Sand-Mayer Reaction".
8. Enlist the catalyst used for Hydrogenation reaction.
9. Giving suitable example, write an Iodination reaction.
10. List out the various example of hydrolysis reagents.
11. Enlist various example of alkylating agents.
12. Define a term Transesterification reaction.

Q. 3 Write a notes on "Nitration of Paraffin hydrocarbons" and "Continuous vs batch nitration process".

(10)

OR

Q. 3 Discuss the commercial manufacturing process of "Nitrobenzene by continuous process" and "Aniline by Bechamp reduction".

(10)

Q. 4 Discuss the Commercial Sulfonation process of Benzene.

(10)

OR

Q. 4 Write a note on "Oxidizing agents" and "Types of Oxidation reactions".

(10)

Q. 5 Discuss the Commercial manufacturing process of Chlorobenzene.

(10)

OR

Q. 5 Write a notes on Hydrogenation of vegetable oil and Reagents for halogenation reactions.

(10)

Q. 6 Write a notes on different mechanism of "Hydrolysis reactions".

(10)

OR

Q. 6 Write a note on "Commercial manufacturing process of Ethyl acetate.

(10)

← X →
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