

[60/A22]

SEAT No. \_\_\_\_\_

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Sardar Patel University

B. Sc. Examination  
(Semester - V)

24<sup>th</sup> October 2018, Wednesday.

Time: 10:00am to 01:00pm

Industrial Chemistry

COURSE: US05CICH02 (Unit Process In Organic Manufacture)

Notes: Figures to the right indicate full marks.

Total marks: 70

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

- Conversion of picric acid from benzene is \_\_\_\_\_ process?  
A. Oxynitration  
B. Nitration  
C. Oxidation  
D. None of them
- A vortex type of agitation is done in  
A. Biazzi nitration  
B. Schimidnitration  
C. Both of them  
D. None of them
- Which of the following is reducing agent?  
A. Fe + Acid  
B. Alkaline H<sub>2</sub>O<sub>2</sub>  
C. Caro's Acid  
D. KMNO<sub>4</sub>
- Preparation of HCHO from CH<sub>4</sub> is the example of  
A. Combination of hydrogenation & introduction of Oxygen  
B. Combination of dehydrogenation & removal of Oxygen  
C. Combination of dehydrogenation & introduction of Oxygen  
D. All of these.
- Benzoyl Peroxide is obtained by reacting a...  
A. 2C<sub>6</sub>H<sub>5</sub>COCl+Na<sub>2</sub>O<sub>2</sub>  
B. 2C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>Cl+Na<sub>2</sub>O<sub>2</sub>  
C. 2C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>COCl+Na<sub>2</sub>O<sub>2</sub>  
D. 2SO<sub>2</sub>Cl+Na<sub>2</sub>O<sub>2</sub>.
- Fuming Sulfuric acid is.....  
A. H<sub>2</sub>SO<sub>4</sub>+SO<sub>3</sub>  
B. H<sub>2</sub>SO<sub>4</sub>+H<sub>2</sub>O  
C. H<sub>2</sub>SO<sub>4</sub>+Cl  
D. All of these.
- Halogenation may involve reactions of \_\_\_\_\_  
A. Addition  
B. Substitution of hydrogen  
C. Replacement of functional group  
D. All of above.
- The direct reduction of carboxyl group to an alcohol at temperature usually from \_\_\_\_\_  
A. 300-400° C  
B. 700-900° C  
C. 1000-1100° C  
D. 0-5° C
- An active catalyst for hydrogenating the lauryl ester of coconut oil fatty acid is...  
A. Copper- ammonium chromate  
B. Copper  
C. Nickel  
D. Copper- ammonium sulphate.
- KCN + H<sub>2</sub>O  $\longrightarrow$  HCN + KOH, is \_\_\_\_\_ reaction.  
A. Hydrolysis  
B. Hydrogenation  
C. Esterification  
D. None of these.

(1)

(P.T.O.)

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

(20)

1. Write use of Nitro & Amino compounds.
2. Giving example, Write a technique of partial reduction.
3. Define term unit Process and unit Operations.
4. Define a term Sulfonation.
5. Define a term Sulfoalkylation.
6. Define a term Sulfoxidation.
7. Write a mechanism for addition type chlorination reaction.
8. Write a reaction for "Sand-Mayer reaction".
9. Outline applications of halogenating compounds.
10. Giving examples, define term esterification reactions.
11. What is trans-esterification? Give an example.
12. Enlist various type of hydrolysis reaction.

Q.3 Giving manufacturing process of Aniline, discuss the Bechamp reduction.

(10)

OR

Q.3 Write a notes on following:

(10)

- A. Oxy nitration reaction.
- B. Manufacturing of Nitrobenzene by continuous process.

Q.4 Discuss the manufacturing of following.

(10)

- A. Acetic acid.
- B. Benzoic acid.

OR

Q.4 Giving definition of Oxidation reaction, Discuss the different types of oxidizing agents and oxidative reactions.

(10)

Q.5 Discuss the manufacturing process of following:

(10)

- A. Chloro-benzene from Benzene.
- B. Monochloro acetic acid

OR

Q.5 Write note on "Hydrogenation of vegetable oil".

(10)

Q.6 Write note on Different mechanism of hydrolysis reactions.

(10)

OR

Q.6 Write notes on Esterification of Carboxylic acid derivatives & Manufacturing process of Ethyl acetate.

(10)

— X —  
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