



# V.P. & R. P. T. P. SCIENCE COLLEGE

B. Sc. (Semester - V) Examination - INDUSTRIAL CHEMISTRY

1<sup>st</sup> October 2018

COURSE NO: US05CICH02 (UNIT PROCESS IN ORGANIC MANUFACTURE)

TIME: 10.00 TO 12.00 PM.

TOTAL MARKS - 50

Q.1 Answer the following MCQs. (08)

- Conversion of picric acid from benzene is known as.....  
A. Nitration  
B. Oxidation  
C. Oxynitration  
D. None of them.
- Liquid phase nitration is of less important because.....  
A. Low yield  
B. Low conversion  
C. Unwanted side reaction  
D. All of these.
- Fuming Sulfuric acid is.....  
A.  $H_2SO_4+SO_3$   
B.  $H_2SO_4+H_2O$   
C.  $H_2SO_4+Cl$   
D. All of these.
- Conversion of alcohol to an Aldehyde is the example of.....  
A. Oxidation  
B. Reduction  
C. Alkylation  
D. Esterification.
- .....is used as a catalyst in preparation of monochloroacetic acid.  
A. Phosphorous trichloride  
B.  $AlCl_3$   
C.  $FeCl_3$   
D. None of these.
- An addition reaction of ethylene using  $Br_2$  gives.....  
A.  $H_3C-CH_2-Br+HBr$   
B.  $Br-CH_2-CH_2-Br$   
C.  $H_3C-CH(Br)-Br$   
D. None of these.
- $CH_3COOC_2H_5 + C_{15}H_{31}COOH \longrightarrow C_{15}H_{31}COOC_2H_5 + CH_3COOH$ .  
A. Acidosis  
B. Alcoholysis  
C. Esterification  
D. Hydrolysis.
- .....is acid catalysed hydrolysis of ester.  
A.  $BACl$   
B.  $AACl$   
C.  $BAC_2$   
D. All of the above.

Q.2 Answer the following short questions (ANY FIVE) (10)

- Define term Oxy-nitration.
- Give the advantages of batch process over continuous process for nitration.
- Differentiate terms Sulfonation and Sufochlorination.
- Enlist the various peroxide used as an oxidizing agents.
- Define term Hydrogenation.
- Write reactions for Chlorination by addition and substitution reaction.
- Define term trans-esterification reaction.
- Give mechanism of F.C. Alkylation reaction.

Q.3 Write note on manufacturing of Nitrobenzene by continuous process. (08)

OR

Q.3 With the help of a chart indicate various reduction products of nitrobenzene under different condition. (08)

Q.4 Write notes on "Types of Oxidative reactions". (08)

OR

Q.4 Discuss the commercial manufacturing of Benzene sulfonic acid by Barbet Process. (08)

Q.5 Write note on Hardening of vegetable oil. (08)

OR

Q.5 Write note on Methods for Chlorination reactions. (08)

Q.6 Giving flow diagram discuss the manufacturing of Ethyl acetate. (08)

OR

Q.6 Give mechanism of hydrolysis type  $BAC_2$  and  $AAC_2$ . (08)