

Bachelor of Science (B.Sc.) Semester—IV Examination

INDUSTRIAL CHEMISTRY (ICH-402)

Optional Paper—II

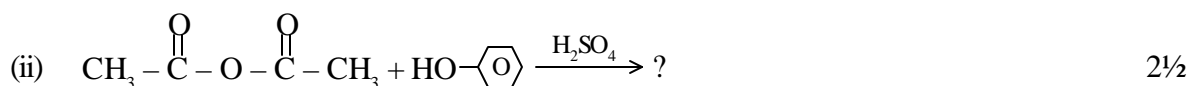
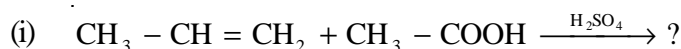
Time : Three Hours]

[Maximum Marks : 50

1. (A) How are carboxylic acid derivatives manufactured ? 5
 (B) Explain the manufacturing process of vinyl acetate with flow sheet diagram. 5

OR

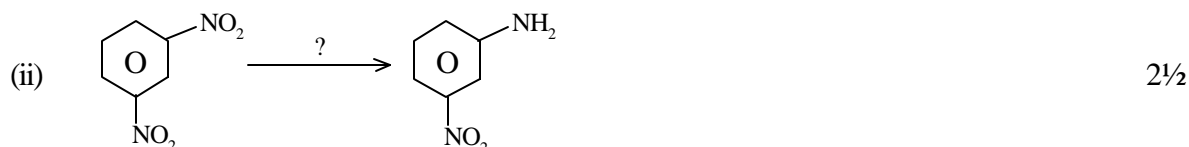
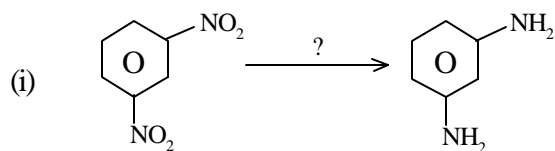
- (C) Write the chemical reaction of acid chlorides use in the process of esterification. 2½
 (D) Give the method for the manufacture of unsaturated ester. 2½
 (E) How is cellulose acetate manufactured ? 2½
 (F) Complete the following reactions :



2. (A) What are aminating agents ? Discuss the different factors that affect the aminolysis. 5
 (B) How is aniline manufactured commercially ? 5

OR

- (C) Explain the amination by reduction with a suitable example. 2½
 (D) What type of promoters are used for electrolytic reduction ? 2½
 (E) How is meta-nitroaniline prepared from aniline ? 2½
 (F) Complete the following reactions :



3. (A) Explain the theory of 'MIST ELIMINATOR' with the help of neat sketch. 5
 (B) Define the term Filtration. Describe briefly :
 (i) Rapid sand filter and
 (ii) Pressure sand filter used in water treatment. 5

OR

- (C) Write a note on solid waste management. 2½
 (D) What are the limitations of bag filters over air pollution control device ? 2½
 (E) What are web scrubbers ? Explain their use in air pollution. 2½
 (F) Describe vertical pressure filter used in treatment of water. 2½

4. (A) Define the term viscosity and density. How will you determine viscosity of liquid by Ostwald viscometer ? 5

(B) Describe the construction and working of pH meter. 5

OR

(C) How will you calibrate the flow type liquid level gauge and ultrasonic level gauge ? 2½

(D) Describe the working of conductometer. 2½

(E) How will you measure the viscosity of liquid ? 2½

(F) Explain the calibration of laboratory glassware. 2½

5. Attempt any **TEN** of the following :

(i) Give any two derivatives of ester.

(ii) What is alcoholysis ?

(iii) Which general catalyst is used for esterification ?

(iv) How will you classify amines ?

(v) Write one common hydrolysis agent.

(vi) Give the structure of p-aminophenol.

(vii) What is sedimentation ?

(viii) Give any two adsorbents.

(ix) What is aerobic process ?

(x) What is the SI unit of viscosity ?

(xi) Give any two advantages of conductometric titration.

(xii) Define viscosity. 1×10=10