TKN/KS/16/5878

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

INDUSTRIAL CHEMISTRY Paper—II (ICH–402)

Time—Three Hours] [Maximum Marks—50

N.B. :— (1) All **FIVE** questions are compulsory any carry equal marks.

(2) Give neat and well labelled diagrams wherever necessary.

1. (A) Explain the manufacturing of cellulose acetate commercially with the help of flow sheet diagram. 5

(B) How are carboxylic acid derivatives manufactured ? 5

OR

(C) Explain the alcoholysis or ester interchange reaction. 2½

(D) Describe the process of refining of ethyl acetate. 2½

(D) Explain the fitration curve of strong acid against strong base conductometrically . 2½

(E) Give the principle of ultrasonic level gauge. 2½

(F) Give the advantages of conductometric titration. 2½

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

(i) Give any two aderivatives of ester.

(ii) Give the common catalyst used for esterification.

(iii) Write any two structure of unsaturated ester.

(iv) Define metal hydride.

(v) What do you mean by reduction ?

(vi) Define hydolysis.

(vii) What is adsorption ?

(viii) Give any two abs orbers.

(ix) What do you mean by industrial safety ?

(x) Define conductance.

(xi) Give the SI unit of conductance.

(xii) What is pH ? 1×10=10

(E) Give the method for the manufacture of unsaturated ester. 2½

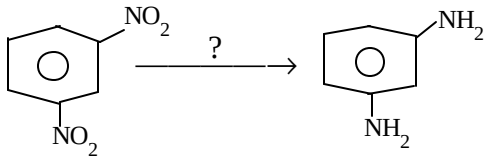
(F) How will you prepare vinyl acetate industrially ? 2½

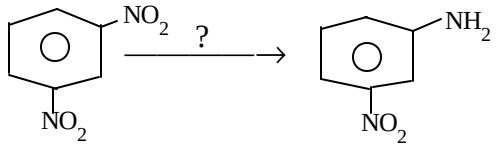
2. (A) Describe the process of electrolytic reduction for the production of amines. 5

(B) Give the mechanism of hydrolysis. 5

OR

(C) Complete the following reaction : 2½

(i) 

(ii) 

(D) Give the comment on the use of sulphides in the preparation of aniline by reductive amination process. 2½

(E) What are the factors affecting the aminolysis ? 2½

(F) Give the examples of primary, secondary and tertiary amines with their structures and uses. 2½

3. (A) What do you understand by 'Aerobic' and 'Anaerobic' processes ? Distinguish between them. 5

(B) Explain the theory of 'MIST ELIMINATOR' with the help of neat sketch. 5

OR

(C) What are the limitations of using a bag filter as an air pollution control device ? 2½

(D) Describe ventury scrubber for removing fine particles from polluted air. 2½

(E) Explain the electrostatic precipitor. 2½

(F) Describe rectangular horizontal flow sedimentation tank. 2½

4. (A) Describe the principle and working of conductometer. 5

(B) What is viscosity ? How will you measure the viscosity of different percentages of liquid ? 5

OR

(C) Explain the flow type liquid level gauge. 2½