

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

**INDUSTRIAL CHEMISTRY (ICH-401)**

**Paper—I**

Time : Three Hours]

[Maximum Marks : 50]

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

(2) Draw well-labelled diagram wherever necessary.

1. (A) Discuss hot dipping process of galvanization for pretreatment. 5  
(B) What is metal coating ? Explain the metallic protective coating with suitable example. 5

**OR**

(C) Explain metal cladding with suitable examples. 2½  
(D) How to apply the concept of vapour deposition for pretreatment on the surface ? 2½  
(E) Give different methods for the preparation of electroplating material. 2½  
(F) What are advantages and disadvantages of impregnated coating ? 2½  
2. (A) Give different methods for manufacture of paints. 5  
(B) Discuss the ingredients present in varnishes and lacquers. 5

**OR**

(C) Explain properties of paint on the basis of their ingredients. 2½  
(D) What are characteristic properties and used of lead chromate yellow pigments ? 2½  
(E) How will you prepare paint remover ? Give its uses. 2½  
(F) How will you distinguish between emulsion paints and special paints ? 2½  
3. (A) How is cane sugar manufactured ? How will you recover cane sugar from molasses ? 5  
(B) How hides are synthesized by vegetable and chrome tanning ? 5

**OR**

(C) How is sucrose manufactured from beetroot ? 2½

(D) Describe the method of estimation of sugar. 2½

(E) Write a note on oil tanning. 2½

(F) Explain the different types of byproduct formed in leather industry. 2½

4. (A) What is semiconductor ? How will you classify ? Explain with suitable examples. 5

(B) What are the requirements of electrical insulating material ? Explain the dielectric properties of insulating material. 5

**OR**

(C) Explain degenerate semiconductor. 2½

(D) Distinguish between conductor and semiconductor. 2½

(E) Write a note on Electrical rigid insulator. 2½

(F) What is superconductor ? Explain with suitable example. 2½

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

(i) Write the name of electroplating material.

(ii) Write chemical reaction in metallic coating.

(iii) What is electroforming ?

(iv) What is Luminous paint ?

(v) Why are pigments used for making paint ?

(vi) What is basic difference in paint and dye ?

(vii) What is important byproduct of manufacturing sugar ?

(viii) Give the structure of soft leather.

(ix) What are molasses ?

(x) Write the name of trivalent impurity used in semiconductor.

(xi) Write the structural formula of insulator.

(xii) Define band gap. 1×10