

NKT/KS/17/5162

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 beatroot ? 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