

NKT/KS/17/5192

Bachelor of Science (B.Sc.) Semester—V (C.B.S.) Examination**ICH-501 : INDUSTRIAL CHEMISTRY****Paper—1**

Time : Three Hours]

[Maximum Marks : 50

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

(2) Write chemical equations and draw diagrams wherever necessary.

1. (A) Explain industrial preparation and uses of bismark brown. 5
 (B) Give preparation, properties and uses of alizarin. 5

OR

- (C) Define with examples :
 (i) Chromophore and
 (ii) Auxochrome. 2½
 (D) How is indigo dye prepared ? 2½
 (E) Draw structure of methyl orange and give its industrial applications. 2½
 (F) Write a note on edible dyes. 2½
 2. (A) Explain the techniques used in sampling of solids and liquids with examples. 5
 (B) Define the terms :
 (i) Absolute error and
 (ii) Relative error.

In the estimation of chromium in a sample of steel, the results of the measurements are 17.52, 17.26, 17.62, 17.51, 17.48, 17.54 and 17.53. Calculate mean and median. 5

OR

- (C) Write a note on sampling of bulk materials. 2½
 (D) Explain the following with examples :—
 (i) Accuracy and
 (ii) Precision. 2½
 (E) Write in short techniques of sampling of gases. 2½
 (F) Give the limitations of analytical methods. 2½

3. (A) How will you synthesize the following in the laboratory :—
 (i) Tetracyclines and
 (ii) Vitamin-C ? 5
- (B) Discuss the synthesis and uses of the following :—
 (i) Vitamin B-12 and
 (ii) Penicillin-G. 5

OR

- (C) Draw the structure of Vitamin B6. Give any three uses of it. 2½
 (D) Discuss the general principle of fermentation process. 2½
 (E) Write a note on fermenters. 2½
 (F) Give industrial synthesis of Vitamin-A. 2½
4. (A) Give the synthesis of Isoniazid. Explain the mode of action, effect and uses. 5
 (B) What are barbiturates ? How will you prepare pentobarbital ? Give its uses. 5

OR

- (C) How is Ibuprofen prepared ? Give its uses. 2½
 (D) Discuss the synthesis of Chloramphenicol. 2½
 (E) Explain the mode of action of barbiturates. 2½
 (F) Give the synthesis of propranolol. 2½
5. Attempt any **TEN** of the following :—
 (i) Define Dye
 (ii) Give the types of malachite dye
 (iii) In dye industry vat dye is represented by which symbol ?
 (iv) What is meant by representative sampling ?
 (v) What do you mean by the term 200 mesh screen ?
 (vi) Define significant figures.
 (vii) Give the category of drug penicillin-G.
 (viii) Give the chemical name of Vitamin-C.
 (ix) Give any two uses of tetracyclines.
 (x) Write the structural formula of Aspirin.
 (xi) What do you mean by Barbiturate ?
 (xii) Give any two uses of methyl salicylate. 10×1=10