KNT/KW/16/5102

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

INDUSTRIAL CHEMISTRY (ICH-201)

Compulsory Paper—1

Time : Three Hours] [Maximum Marks : 50

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

(2) Draw diagrams and write equations wherever necessary.

1. (A) Discuss the importance of drying in industry. Explain flash dryer and spray dryer. 5

(B) What are the criteria of selection of solvents in extraction ? Explain spray column and packed column in extraction. 5

OR

(C) Explain the term counter current extraction. 2½

(D) Give the advantages and limitation of mixture settler and fluid bed dryer. 2½

(E) Draw a well-labelled diagram of drumdryer. Give its applications. 2½

(F) Explain drying curve. Give its advantages. 2½

2. (A) What are food additives ? Explain food preservatives and food flavours with suitable examples. 5

(B) What are surfactants ? Explain detergent's binders and builders. 5

OR

(C) What do you mean by soap and detergent ? Give any one method of preparation of soap. 2½

(D) Write a note on 'Hydrogenation of oils'. 2½

(E) What do you mean by rancidity of oil ? How will you prevent-rancidity ? 2½

(F) Explain the classification of oils. 2½

3. (A) What are the essential requirements of an ideal gasoline ? What is meant by blending and doping ? 5

(B) Explain the role of combustion of non-petroleum fuel in mass analysis. 5

OR

(C) Explain octane number of gasoline. What is its role in diesel and petrol ? 2½

(D) How is mass analysis of non-petroleum fuel carried out by volumetric analysis ? 2½

(E) Define flash point and ignition point of a fuel. 2½

(F) Write a note on "Flue gas analysis". 2½

4. (A) Explain in detail the method of control and prevention of corrosion. 5

(B) What is glass ? Describe tank furnace process of manufacture of glass. Write a chemical reactions taking place in furnace. 5

OR

(C) Write a note on Electrochemical Theory of Corrosion. 2½

(D) What is soft glass ? Give the main raw materials of soft glass. 2½

(E) Write a physical and chemical properties of glass. 2½

(F) Discuss any two methods of prevention of corrosion. 2½

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

(i) What is solvent ?

(ii) Define extraction.

(iii) Define bound moisture.

(iv) Give name of flavours in food.

(v) What is LABS ?

(vi) What do you mean by acid value of oils ?

(vii) What is reforming ?

(viii) Define knocking of oil.

(ix) Define calorific value of fuel.

(x) Give the composition of safety glass.

(xi) Why zinc prevents iron from corrosion even when surface is scratched ?

(xii) Name the material which should be added to get :

(i) Yellow glass and

(ii) Blue glass. 1×10=10