

NRT/KS/19/2033

Bachelor of Science (B.Sc.) Semester-I Examination
INDUSTRIAL CHEMISTRY (ICH-102)

Optional Paper—2

Time : Three Hours]

[Maximum Marks : 50

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

(2) Draw diagrams and write equations wherever necessary.

1. (A) What is an adsorption isotherm ? Discuss Langmuir adsorption isotherms. 5
(B) Explain the terms with suitable examples :
(i) Gel
(ii) Aerosol. 5

OR

- (C) Write a note on surfactant. 2½
(D) Discuss mechanical dispersion Method. 2½
(E) Explain the following terms :
(i) Specific area of the adsorbent
(ii) Nature of the adsorbent. 2½
(F) Give the applications of adsorption. 2½
2. (A) Give the comparison between solid, liquid and gases fuel. 5
(B) Explain distillation of coal with labelled diagram. 5

OR

- (C) Give the advantages and disadvantages of Gas fuel. 2½
(D) How are fuels classified ? Explain with examples. 2½
(E) Write complete account of ultimate analysis of coal. 2½
(F) Explain briefly the important characteristics of a good fuel. 2½
3. (A) Discuss importance of homogeneous catalysis in industries. 5
(B) Explain enzyme catalysis with examples. 5

OR

- (C) Give the basic principle of catalysis. 2½
(D) What is positive catalyst ? Explain with examples. 2½
(E) Write a note on catalytic reactions. 2½
(F) Why catalysis is important ? 2½
4. (A) What is Global Warming ? Explain. 5
(B) Discuss the effect of air pollution on human, plants and animals. 5

OR

- (C) What are secondary pollutants ? Explain any two examples of it. 2½
- (D) What are different sources of air pollution ? 2½
- (E) Explain in short green house effect. 2½
- (F) What are foul smelling gases ? Explain with examples. 2½

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

- (A) What is demulsification ?
- (B) Give two names of demulsifiers.
- (C) Give any two examples of sol.
- (D) What is LPG ?
- (E) What is natural gas ?
- (F) What is L.D.O. ?
- (G) What is acid catalyst ?
- (H) Give any two factors that affect the performance of catalysis.
- (I) What is catalyst ?
- (J) What is an effect of peroxyacetyl nitrate on leaf ?
- (K) What is CFCs ?
- (L) Give any two examples of primary pollutants. 10×1=10