

1127

B.A./B.Sc.(General)-1st Semester**Industrial Chemistry**

Paper-A: Industrial Aspects of Chemistry-III

Time allowed: 3 Hours

Max. Marks: 75

NOTE: Attempt five questions in all, including Question No. IX (Unit-V) which is compulsory and selecting one question each from Unit I-IV.

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UNIT - I

- I. (a) Explain the destructive distillation of coal. Also compare two type of carbonization of coal.
- (b) Discuss in detail fractionation of crude oil. Explain the major distillation products. (8+7)
- II. (a) What do you mean by cracking? Also discuss the two types of cracking with flow diagrams.
- (b) Discuss physical and chemical properties of natural gas. (8+7)

UNIT - II

- III. (a) Discuss in detail the manufacture of dextrin and dextrose from corn.
- (b) Explain the following metallurgical operations: -
- (i) Calcination (ii) Refining (8+7)
- IV. (a) Explain the production process of cellulose acetate along with a neat flow diagram.
- (b) Discuss the various types of alcohols and alcohol based chemicals. (8+7)

UNIT - III

- V. (a) Discuss the physicochemical principle of extraction of lead. Draw all neat sketches involved.
- (b) Explain the industrial importance of zeolitus. (8+7)
- VI. (a) With the help of a neat sketch, explain the physicochemical principle of extraction of sodium.
- (b) Discuss the availability, forms, structure, modification and industrial importance of silicates. (8+7)

P.T.O.

(2)

UNIT - IV

- VII. (a) What is an adsorption isotherm? Derive expression for Langmuir adsorption isotherm.
- (b) What are emulsions? Give their types with examples. Illustrate the role of emulsifier in stabilizing oil in water emulsion. (8+7)
- VIII. (a) Differentiate between homogeneous and heterogeneous catalysis with suitable examples.
- (b) What are gels? Discuss various types of gels. Give various methods for the preparation of gels. (8+7)

UNIT-V

- IX. Write short note on the following: -
- (a) Isomerisation
- (b) Pulverization
- (c) Alumina
- (d) Micelles
- (e) Autocatalysis (5×3)

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