

2121
B.A./B.Sc. (General) Third Semester
Industrial Chemistry
Paper - A: Material Science

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.

x-x-x

UNIT – I

- I. a) Explain the manufacturing process of cement in detail.
b) Discuss in detail various types of Alloy Steels. (8,7)
- II. Write notes on the following:-
a) Brass and Bronze
b) High Speed steels
c) Polymer Inhibitors (3x5)

UNIT – II

- III. a) Discuss kinetics and mechanism of nitration process of benzene to nitrobenzene.
b) Describe commercial manufacturing of Monochloro acetic acid. (8,7)
- IV. a) Explain different types of nitrating agents with their significance.
b) Write in brief kinetics of Halogenation reactions. (8,7)

UNIT – III

- V. Describe commercial manufacturing of the following:-
a) Benzoic acid
b) Maleic anhydride (7,8)
- VI. Explain mechanism of following:-
a) Liquid phase oxidation
b) Hydrolysis (8,7)

UNIT – IV

- VII. Explain briefly commercial manufacturing of following:-
a) Phenyl ethyl alcohol
b) Aniline
c) Ethyl benzene (3x5)

P.T.O.

(2)

VIII. Explain the following:-

- a) Commercial manufacturing of P-amino phenol
- b) Hydrogenation of vegetable oil

(7,8)

UNIT – V

IX. Answer the following in brief:-

- a) Mercerization
- b) Commercial manufacturing of chloromethanes
- c) Super alloys
- d) Vapour phase oxidation
- e) Metal and alkali reductions

(5x3)

x-x-x