

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. 9 (Unit-V) which is compulsory and selecting one question each from Unit I - IV.

x-x-x

UNIT-I

1. (a) Discuss in detail manufacturing process and setting of cement.
(b) Explain completely spinning of fibres. (10,5)

2. Write complete notes on the following.

- (a) Mercerization
(b) Alloy steels
(c) Brass and Bronze (5,5,5)

UNIT-II

3. (a) Describe kinetics and mechanism of process of Benzene to Nitrobenzene.
(b) Write in brief kinetics of Halogenation reactions. (8,7)

4. (a) Discuss in detail commercial manufacturing of Chlorobenzene.
(b) Explain different types of Nitrating agents with their significance. (7,8)

UNIT-III

5. Discuss commercial manufacturing of following.
(a) Ethyl acetate
(b) Maleic anhydride (7,8)

6. Explain mechanism of following.
(a) Vapour phase oxidation
(b) Hydrolysis (8,7)

UNIT-IV

7. Discuss in brief commercial manufacturing of following.
(a) Ethyl benzene
(b) Aniline
(c) p-Aminophenol (5,5,5)

8. Describe the following completely.
(a) Hydrogenation of vegetable oil
(b) Manufacture of methanol (7,8)

UNIT-V

9. Attempt the following in brief.
(a) Super alloys
(b) Moulding of plastics into articles
(c) Commercial manufacture of Monochloroacetic acid
(d) Commercial manufacture of cellulose acetate
(e) Thermodynamics of hydrogenation reactions (5x3)

x-x-x