

1115
B.A./B.Sc. (General) Third Semester
Industrial Chemistry
Paper – A: Material Science

Max. Marks: 75

Time allowed: 3 Hours

NOTE: Attempt five questions in all, including Question No. I which is compulsory and selecting one question from each Unit

x-x-x

- I. Attempt the following:-
- Mercerization
 - Nuclear halogenation
 - Alloy and its uses
 - Halogenation reaction
 - Liquid phase oxidation

UNIT- I

- II. a) Discuss in detail the purpose of making alloys. Differentiate between steel and high speed steel.
- b) Define polymeric materials. What are the various constituents of plastic and explain the process of plastic moulding? (8,7)
- III. Discuss the manufacturing of cement in detail and also various types of cement. (15)

UNIT- II

- IV. Differentiate between:-
- Continuous vs Batch process (8,7)
 - Aromatic halogenation Vs Nuclear halogenation
- V. Explain the commercial synthesis of mono chloroacetic acid and chlorobenzenes. (15)

UNIT- III

- VI. Give the commercial manufacturing of:-
- Maleic anhydride
 - Benzoic acid (3x5)
 - Ethyl acetate
- VII. a) Explain the mechanism of oxidation of organic compounds.
- b) Define hydrolysis and also explain the mechanism of hydrolysis with suitable example. (8,7)

UNIT- IV

- VIII. a) Give the mechanistic study of hydrogenation of vegetable oil.
- b) Explain with chemical reaction and mechanism for the synthesis of N-alkyl anilines. (8,7)
- IX. Explain in detail the methods of reduction iron and acid reductions. (15)

x-x-x