

2021
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) What are ceramics? How are they classified? Discuss manufacturing process of any two types of ceramics. (9,6)
- b) Discuss in brief about Alloy Steels.
- II. Explain the following:-
- a) Spinning of fibres
- b) Brass and Bronze
- c) Mercerization (3x5)

UNIT - II

- III. a) Give a detailed account of different nitrating agents with significance. (8,7)
- b) Explain kinetics and mechanism of nitration of paraffinic hydrocarbons.
- IV. a) Explain commercial manufacturing of mono-chloroacetic acid. (8,7)
- b) Discuss in brief kinetics of halogenations reaction.

UNIT - III

- V. Explain commercial manufacturing of the following:-
- a) Ethyl acetate (8,7)
- b) Maleic anhydride
- VI. a) Explain kinetics and mechanism of liquid phase oxidation. (9,6)
- b) Discuss mechanism of hydrolysis.

UNIT - IV

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

P.T.O.

(2)

VIII. Explain the following:-

- a) Hydrogenation of vegetable oil
- b) Metal and acid reductions
- c) Commercial manufacturing of P-amino phenol

(3x5)

UNIT – V

IX. Answer the following:-

- a) Super alloys
- b) Polymer inhibitors
- c) Mechanism of benzene to m-dinitrobenzene
- d) Tell in brief about hydrolyzing agents
- e) Manufacturing of mono-ethyl aniline.

(5x3)

x-x-x

CAKNOWLEDGE SEEKERS