



SB-3584

M. Sc. (Part - II) Examination
March / April – 2011
Industrial Chemistry : Paper - I
(Chemistry in Industries)
(Self Finance)

Time : 3 Hours]

[Total Marks :70

Instructions :

(1)

नीचे दशांशवले निशानीवाणी विगतो उत्तरवही पर अवश्य लपखी. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
<input type="text" value="M. SC. (PART - II)"/>	<input type="text"/>
Name of the Subject :	<input type="text"/>
<input type="text" value="INDUSTRIAL CHEMISTRY - 1"/>	<input type="text"/>
Subject Code No. : <input type="text" value="3"/> <input type="text" value="5"/> <input type="text" value="8"/> <input type="text" value="4"/>	<input type="text" value="Student's Signature"/>
Section No. (1, 2,.....) : <input type="text" value="1&2"/>	

- (2) Attempt all the six questions.
(3) Figures to the **right** indicate full marks.

SECTION – I

- 1 (a) Describe chlorination. What is halogen carrier ? **6**
Explain chlorination of toluene and naphthalene.
(b) Describe amination reactions by different aminating **6**
agents.

OR

- 1 (a) Discuss alkylation and alkylating agents. What **6**
industrial chemicals are obtained from it? Write
synthesis of two important compounds.
(b) Describe hydroxylation as a unit process. **6**
- 2 (a) Derive an expression for rate of heat flow through **6**
an infinite slab with thickness b , and thermal
conductivity k .

- (b) Write and balance the overall equation for the manufacture of vinyl chloride from ethylene, Cl_2 and O_2 . Describe qualitative and quantitative risk assessment. 5

OR

- 2 (a) Write short notes on : 6
(i) Stoichiometry
(ii) MSDS
(b) Describe different methods for waste disposal. 5
- 3 (a) Describe waste minimization in context to green chemistry. 6
(b) Write note on Ionic liquids for supercritical fluids as green solvents. 6

OR

- 3 (a) Describe the twelve principles of green chemistry. 6
(b) Write conventional and green synthesis of adipic acid. 6

SECTION – II

- 4 (a) Describe the effect of ionizing radiation. 4
(b) Write a note on air pollutants. 4
(c) Write an account on waste classification. 4

OR

- 4 (a) Write a note on sulphur cycle. 4
(b) What is chemistry of global warming ? 4
(c) Write note on water pollutants. 4
- 5 (a) Discuss the various types of fertilizers. Where in Gujarat are fertilizers produced ? 4

- (b) Define the terms soaps and detergents. Explain the advantages of detergents over soaps. 4
- (c) What is paint ? What are its constituents ? 4

OR

- 5** (a) What are the products obtained from fermentation ? Describe the production of alcohol. 4
- (b) Explain hydrogenation and rancidity of oils. 4
- (c) What are essential oils ? Write the synthesis of muskone. 4
- 6** (a) Classify synthetic detergents and give examples. 4
- (b) Discuss the chemistry of chlorinated pesticides. 3
- (c) What are explosives ? Write their classification and applications. 4

OR

- 6** (a) What are surfactants ? Give their classification with examples. 4
- (b) Write synthesis of Dynamite and Picric acid. 4
- (c) List some fertilizers and pesticide manufacturing companies in Gujarat and India. 3