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RR-0823

Third Year B. Sc. (IC) Examination

March / April – 2010

Industrial Chemistry : Paper - VI

(Heavy & Fine Chemicals) (Vocational)

Time : 3 Hours]

[Total Marks : 70

Instructions :

(1)

નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
<input type="text" value="T. Y. B. Sc. (IC)"/>	<input type="text"/>
Name of the Subject :	<input type="text"/>
<input type="text" value="Industrial Chemistry - 6"/>	<input type="text"/>
Subject Code No. : <input type="text" value="0"/> <input type="text" value="8"/> <input type="text" value="2"/> <input type="text" value="3"/>	<input type="text"/>
Section No. (1, 2,.....) : <input type="text" value="Nil"/>	<input type="text"/>
	Student's Signature

- (2) All sub questions of question no. 1 are **compulsory**.
(3) Give reaction, flow diagram and neat sketches wherever necessary.
(4) Figures to the right indicate full marks of the question.

1 Answer the following questions in short and to the point : 15

- Discuss the uses of Silicon.
- Why do industrial catalysts need special method of preparation?
- Give the structure of menthol.
- What is Raney Nickel?
- Discuss the toxicity of 1,4-butanediol.
- Ammonium nitrate required coating with clay. Explain.
- Give the general formula and uses of ketenes.
- Discuss the use of graphite.
- Give the chemical reaction for the production of Bromine.
- Give the use of methyl chloride.
- Define food preservatives.
- How ethanol amines are prepared?

- (xiii) In wet process some sulphuric acid is intentionally allowed to go with phosphoric acid. Why?
- (xiv) Why sodium thiosulphate is called hypo?
- (xv) Give the benefits of modern pulverization for the manufacture of superphosphate.
- 2** (a) Discuss the manufacturing process of nitric acid with special reference to chemical reactions, raw materials and flow diagram. **4**
- OR**
- (a) Compare the uses of various types of cells for caustic manufactured by electrochemical method. **4**
- (b) What are the various types of industrially useful limes? How are they produced? **4**
- OR**
- (b) How calcium carbide is manufactured? Why is it useful in grinding tools? **4**
- (c) Write a note on activated carbon. **3**
- 3** (a) Compare manufacturing process of boric acid from mined ore and from Trona. **4**
- OR**
- (a) Discuss the uses and production of sodium sulphate from Salt and sulphuric acid. **4**
- (b) Which raw material is used in the production of fluorine? Explain safety and toxicity of fluorine. **4**
- OR**
- (b) What do you mean by brine? Explain Grainer process for the manufacture of sodium chloride. **4**
- (c) Write a short note on Iodine. **3**
- 4** (a) How phthalic anhydride manufactured from Naphthalene? **4**
- OR**
- (a) Describe the method of manufacturing of synthetic fuels. **4**
- (b) Discuss the manufacture of glycerine from propylene via acrolein. **4**

OR

- (b) With special reference to raw materials and kinetics, discuss the manufacture of melamine. 4
- (c) Write a note on vinyl chloride. 3
- 5 (a) How higher amines are produced? Discuss the uses of Alkylamines. 4

OR

- (a) Explain the manufacturing process of primary, secondary phosphine and triphenyl phosphine. 4
- (b) How is ethyl ether produced? Discuss its uses. 4

OR

- (b) How THF is manufactured? Explain with chemical reaction and flow diagram. 4
- (c) Write a short note on paraldehyde. 3
- 6 (a) Explain the commercial manufacture of Lithium Aluminium Hydride with equation and neat flow diagram. 4

OR

- (a) Discuss the production and uses of sodium amide. 4
- (b) Define flavours and fragrances and its physiological importance. 4

OR

- (b) Define and explain in detail the food-additives. 4
- (c) Write a short note on Citral. 3
