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RE-5375

M. Sc. (Part - II) Examination

April / May – 2010

Pharmaceutical Chemistry (Self Finance) : Paper - I

(Chemistry in Industry)

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.

Name of the Examination :

☛ M. SC. - 2

Name of the Subject :

☛ PHARMACEUTICAL CHEMISTRY (SELF FINANCE) - 1

☛ Subject Code No. : 5 3 7 5 ☛ Section No. (1, 2,.....) : 1&2

Seat No. :

Student's Signature

(2) Attempt all the six questions.

(3) Figures to the right indicate full marks.

SECTION - I

1 (a) Define and explain unit processes and unit operations. Describe industrial uses of sulfonation. Explain sulfonation of naphthalene. **6**

(b) Describe halogenation reactions with examples. Explain chlorination of toluene and naphthalene. **6**

OR

1 (a) Define nitration and describe nitration of naphthalene. Write synthesis of any three explosives. **6**

(b) Describe different reduction methods for the preparation of amines. Explain giving reactions. **6**

2 (a) Write short note on : **6**
(i) Stoichiometry and (ii) MSDS.

(b) Describe fractional distillation with proper example. **6**

OR

2 (a) What is importance of material balance? How is energy lost from reheating furnace? Draw a schematic diagram. **6**

(b) Describe qualitative and quantitative risk assessment. **6**

3	(a)	What are ionic liquids? Write their properties and applications.	3
	(b)	Write 12 principles of green chemistry.	4
	(c)	Write green synthesis for Diels-Alder reaction.	4

OR

3	(a)	Describe atom economy with examples.	4
	(b)	Write synthesis of paracetamol using green chemistry principles.	4
	(c)	Draw a phase diagram of CO_2 and explain.	3

SECTION - II

4	(a)	Write a note on sulphur cycle.	4
	(b)	What is ozone layer depletion? Explain.	4
	(c)	Write an account of acid rain using reactions.	4

OR

4	(a)	Write the sources of pollutants NO_x, H_2S and CO.	4
	(b)	Write a short note on Global warming.	
	(c)	What is chemical speciation? Describe with suitable examples.	4

5	(a)	Explain different types of errors.	4
	(b)	What are characteristic features of normal distribution curve?	4
	(c)	Write notes on Skewness and variance.	4

OR

5	(a)	Distinguish between accuracy and precision with example.	4
	(b)	Explain Q-test for rejection of data.	4
	(c)	Distinguish between relative and absolute error with example.	4

6	(a)	Describe classification of heterocyclic compounds.	5
	(b)	Write synthesis, properties and applications of thiazole.	6

OR

6	(a)	Describe nomenclature of heterocyclic compounds taking few examples.	5
	(b)	Write synthesis, properties and applications of phenothiazines.	6