M.Sc, Organic Chemistry, Sem-IV, April, 2015
Selected Topics-II, Paper No. XV, Code No. 3535

Time: 2.5 Hours] [Marks: 70

NB: All questions carry equal marks

Q.1. Give the preparation, isolation ,industrial production, utility and toxicity of clinically used drugs: (any two) 14

(i) Salicylic acid (ii) Insulin (iii) Paracetamol (iv) Saccharin

Q-2. Answer the following: 14

(a) Enumerate different QSAR methods. Distinguish Traditional and Rational approach.

(b) What are hypnotics and sedatives? Give an account of barbituric acid derivatives.

OR

Q-2. Answer the following: 14

(a) Describe in detail about physicochemical parameters considered in Random walk theory.

(b) What is an antigen? Write about H_1 receptor blocking agents. Give synthesis of one member from each class.

Q.3. Explain: Classification and nomenclature of enzymes. 14

OR

Q.3. Elucidate structure of coenzyme – I and II. Write a note on Enzymes inhibitors. 14

Q.4. Answer the following: 14

(i) Draw the schematic diagram for the prosecution of patent applications in India.

(ii) Draw the schematic diagram for the prosecution patent applications in USA.

OR

Q.4. (a) Answer the following: 9

1. Draw the sketch for PCT application submitted to WIPO.
2. Explain reasons for obtaining patent rights.
3. Explain stepwise processing of patent application for obtaining granted patent.

(b) Answer the following: 5

1. Explain in brief: Prior art.
2. Write the order of arrangement which should be observed in framing the application for the submission to patent office.

Q.5. (a) Answer the following: (any one): 8

(i) Introduce the term: Nanotechnology. Explain the fundamental concept of nanotechnology and on the basis of this, discuss the utility of nanomaterials in nano-science.

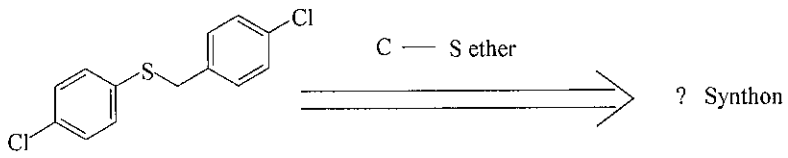
(ii) Discuss the important of bottom-up and top down approaches in nano-science.

(b) Answer the following: (any one) 6

(i) Introduce the concept of retrosynthetic analysis. Explain synthon and synthetic equivalent with suitable examples in detail.

(ii) Answer the following:

Complete the following reaction and identify the synthon. 2



Give the possible disconnections of the following molecule: 4