

78056

M. Sc. 4th Semester Examination,

May-2016

CHEMISTRY

Paper-CH-505-XV

Organic-Special-V

*Time allowed : 3 hours]*

*[Maximum marks : 80*

*Note : Attempt five questions in all, selecting one question from each section. Question No. 1 is compulsory.*

1. (a) How would you proceed to detect unsaturation in an unknown compound?
- (b) What is importance of dehydrogenation in structure determination of reserpine ?
- (c) What is mode of action of antibiotics
- (d) How would you proceed to detect unsaturation in an unknown compound?
- (e) What do you know about Wagner Meerwein rearrangement ?
- (f) Give one synthesis of oestrone
- (g) Write structure of reserpine with correct stereochemistry
- (h) Convert morphine to apomorphine. 16

78056-P-3-Q-9 (16)

P.T.O.

(2)

78056

**Section-A**

2. (a) How the structure of Zingibrene has been established. Give its synthesis also  
(b) How is santonic converted into santonic acid. Prepare a mechanism for this conversion. 10,6
3. (a) Write a note on biosynthesis of terpenoids  
(b) How the structure of Abietic acid was established? 7,9

**Section-B**

4. (a) Give synthesis of papaverine giving reagents for each step.  
(b) Outline the structure of quininic acid. 8,8
5. (a) How the structure of reserpine was established.  
(b) Discuss stereochemistry of morphine. 8,8

**Section-C**

6. (a) How the structure of Adrenaline was established?  
(b) Give the synthesis of progesterone and testosterone. 12,4
7. (a) Write a note on synthetic non-steroidal oestrogens  
(b) Give evidence for  
(i) Nature and position of side chain in cholesterol  
(ii) To determine ring size in cholesterol. 8,8

78056

(3)

78056

**Section-D**

8. (a) Outline the structure of chloramphenicol  
(b) What is the structure of D-penicillamine and how it was determined. 10,6
9. (a) How was the structure of streptidine was established?  
(b) Briefly discuss classification of prostaglandins. 8,8

78056