

S.No. 265

12PCH06

(For the candidates admitted from 2012–2013 onwards)

M.Sc. DEGREE EXAMINATION, NOVEMBER 2017.

Third Semester

Chemistry

ORGANIC CHEMISTRY – III

Time : Three hours

Maximum : 75 marks

PART A — (5 × 5 = 25 marks)

Answer ALL the questions.

1. (a) Elucidate the structure of reserpine.

Or

(b) Describe the classification and give one example of alkaloids.

2. (a) Explain the addition and stereochemistry of halogens to carbon-carbon double bonds.

Or

(b) Explain in the mechanism of Darzen glycidic ester condensation.

3. (a) Explain the mechanism of Demyanov rearrangement.

Or

(b) Explain Hofmann rearrangement?

4. (a) Describe the oxidation reactions of  $O_3$ .

Or

(b) Write notes on Wolf-Kishner reduction.

5. (a) Describe the ring structure of cholesterol.

Or

(b) Write notes on Artificial hormones.

PART B — (5 × 10 = 50 marks)

Answer ALL the questions.

6. (a) Elucidate the structure of papaverine.

Or

(b) Explain the synthesis of Quinine.

7. (a) Write notes on :

(i) Michael addition

(ii) Hydration of olefins (5+5)

Or

2

S.No. 265

(b) Give the mechanism of the following reaction

(i) Mannich reaction

(ii) Strecker synthesis. (5+5)

8. (a) Discuss

(i) Wagner-Meerwin rearrangement

(ii) Bayer-Villiger rearrangement (5+5)

Or

(b) Write notes on

(i) Wolf rearrangement

(ii) Curtives rearrangement (5+5)

9. (a) (i) Explain the oxidation reaction of  $CrO_3$ .

(ii) Discuss the oxidation reaction of DMSO with DCC (5+5)

Or

(b) (i) Discuss the reduction reaction of hydrides

(ii) Write notes on MPV reduction (5+5)

10. (a) Discuss the conversion of cholesterol into testosterone and oestrone.

Or

(b) Explain the total synthesis of cholesterol.

3

S.No. 265