

9. (a) (i) Discuss Gattermann-Koch reaction.
(ii) Describe ortho-para ratio.
(iii) What is upso attack? (4 + 3 + 3)

Or

- (b) (i) Discuss benzyne mechanism.
(ii) Write notes on chichibabin reaction. (5 + 5)
10. (a) Elucidate the structure of flavonol.

Or

- (b) Explain the synthesis of papaverine.

S.No. 331

17PCH01/17POC01

(For the candidates admitted from 2017-2018 onwards)

M.Sc. DEGREE EXAMINATION, NOVEMBER 2017.

First Semester

Chemistry

ORGANIC CHEMISTRY — I

Time : Three hours Maximum : 75 marks

PART A — (5 × 5 = 25 marks)

Answer ALL questions.

1. (a) Differentiate homotopic, enantiotopic and diastereotopic H-atoms in organic molecules.

Or

- (b) Discuss the stereochemistry of cis and trans decalins.

2. (a) Discuss the stability and formation of free radicals.

Or

- (b) Explain thermo dynamic and kinetic controlled reaction.

3. (a) Explain S_N1 and S_Ni mechanism.

Or

(b) Describe Claisen condensation reaction.

4. (a) Discuss Friedel Crafts alkylation and acylation reaction.

Or

(b) Write notes on S_NAr mechanism.

5. (a) How quinine acid is synthesised?

Or

(b) Discuss the structure of methemipinic acid and pyridine 2, 3,4-tricarbonylic acid.

PART B — (5 × 10 = 50 marks)

Answer ALL questions.

6. (a) Discuss the conformation of biphenyls and allenes.

Or

(b) Discuss the conformation of 1, 2; 1, 3; and 1,4 disubstituted cyclohexanes.

7. (a) Explain the mechanism of

(i) Sandmeyer reaction

(ii) Ullmann reaction. (5 + 5)

Or

(b) (i) Derive Hammett equation.

(ii) Explain the significance of σ and ρ .

(iii) Describe Hammond's postulate.

(2 + 6 + 2)

8. (a) (i) Discuss the neighbouring group participating of π and σ bonds.

(ii) What is regioselectivity? Explain with example. (6 + 4)

Or

(b) (i) Illustrate with example about ambident nucleophile and ambident substrate.

(ii) Discuss the mechanism of Von Brawn reaction.

(iii) Explain the reactivity of substrate on changing the medium. (3 + 4 + 3)