

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)  
BSc DEGREE EXAMINATION DECEMBER 2019  
(Fifth Semester)

Branch-CHEMISTRY

**ORGANIC CHEMISTRY !**

Time : Three Hours

Maximum : 75 Marks

**SECTION-A (20 Marks)**

Answer ALL questions

ALL questions carry EQUAL marks (10 x 2 = 20)

- 1 Define : Inversion of cane sugar.
- 2 How will you prepare cellulose nitrate?
- 3 State Isoprene rule.
- 4 Write the product obtained when coniine is reduced with HI.
- 5 Define Nitro-acinitro tautomerism.
- 6 How is crotonic acid prepared from malonic ester?
- 7 Write the stability of free radicals.
- 8 Give any one reaction of allylic bromination.
- 9 Name any two dyes used in acid-base titrations.
- 10 Define the terms : i) Chromophore ii) Auxochrome.

**SECTION - B (25 Marks)**

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 5 = 25)

- 11 a Discuss the structure of starch.  
OR  
b What is epimerization? Illustrate with suitable examples.
- 12 a Explain the preparation and properties of nicotine.  
OR  
b Explain the classification of terpenes.
- 13 a Give an account of nitroso - oximino tautomerism.  
OR  
b Write any five synthetic applications of acetoacetic ester.
- 14 a Explain the mechanism of Reformatsky reaction.  
OR  
b Write the significances of CN in benzion condensation.
- 15 a Give a short note on phthalein dyes.  
OR  
b Discuss the molecular orbital theory for color and constitution.

**SECTION - C (30 Marks)**

Answer any THREE Questions

ALL Questions Carry EQUAL Marks (3 x 10 = 30)

- 16 i) Elucidate the structure of Sucrose. (5)  
ii) What happens when fructose is treated with the following reagents? (5)  
a)  $\text{Br}_2/\text{H}_2\text{O}$  b)  $\text{Con.HNO}_3$  c)  $\text{C}_6\text{H}_5\text{NHNH}_2$  d)  $\text{NaBH}_4$   
e) Fehling's solution
- 17 Describe the preparation, properties and structure of a -pinene. (2+4+4)
- 18 How is malonic ester prepared? Write the synthetic application of malonic ester. (2+8)
- 19 Explain the following: i) Knoevenegal reaction ii) Cannizzaro reaction. (5+5)