18CHU15

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2024
(Fifth Semester)

Branch – **CHEMISTRY**

ORGANIC CHEMISTRY-I

Time: Three Hours Maximum: 50 Marks

SECTION-A (5 Marks)

Answer **ALL** questions
ALL questions carry **EQUAL** marks (5 x 1 = 5)

1. Which one of the following is monosaccharides?
   a) Sucrose b) Starch c) Cellulose d) Fructose
2. Tobacco is the source of
   a) Nicotine b) Conine c) Piperine d) Papaverine
3. Keto-enol tautomerism is shown by
   a) Acetic acid b) Malonic ester c) Benzophenone d) Benzaldehyde
4. A free radical is
   a) Neutral in characters b) Shortly lived
   c) Paramagnetic d) All the above
5. Alizarin is an example for
   a) Anthraquinone dye b) Azine dye
   c) Vat dye d) Xanthene dye

SECTION - B (15 Marks)

Answer **ALL** Questions
ALL Questions Carry **EQUAL** Marks (5 x 3 = 15)

6. a) Write a note on Mutarotation.
   (OR)
   b) Describe the applications of cellulose.
7. a) Discuss the general methods of structural elucidation of alkaloids.
   (OR)
   b) Give the preparation and properties of menthol.
8. a) What are active methylene groups? Give an examples.
   (OR)
   b) Illustrate the nitro-acinitro tautomerism.
9. a) Narrate the mechanism of allylic bromination.
   (OR)
   b) How will you prepare cannizzaro reaction?
10. a) Outline the chemistry of Indigo dyes.
    (OR)
    b) Sketch the structure of flavones.

Cont...

SECTION C (5 X 6 = 30 Marks)
Answer **ALL** Questions
ALL Questions Carry **EQUAL** Marks

11. a) What happens when glucose is treated with the following reagents?
i) Con.HNO_3 ii) Br_2/H_2O iii) $C_6H_5NHNH_2$ iv) Tollen's reagent

(OR)

b) Elucidate the structure of Sucrose.

12. a) Outline the synthesis of i) Piperine ii) Nicotine

(OR)

b) Analyze the preparation, properties and structure of α-pinene.

13. a) Write notes on: i) Amido-imidol tautomerism ii) Nitroso-oximino tautomerism

(OR)

b) Give the preparation and synthetic uses of malonic ester.

14. a) Give an account on: i) Gomberg-Bachmann reaction
ii) Knoevenegal reaction

(OR)

b) Write a note on mechanism of wittig and perkin reaction.

15. a) Explain: i) Triphenylmethane dyes ii) Xanthene dyes

(OR)

b) How are dyes classified based on chemical constitution? Explain with examples.

Z-Z-Z END