

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION MAY 2025
(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. Starch is made up of ____
i. sucrose ii. glucose iii. fructose iv. galactose
2. Molecular formula of α - pinene is
i. $C_{11}H_{16}$ b. $C_{12}H_{16}$ iii. $C_{10}H_{16}$ iv. $C_{10}H_{18}$
3. Active methylene compounds are $-CH_2$ groups flanked by electron ____ and electron ____ groups
i. withdrawing, donating ii. withdrawing, withdrawing
iii. donating, donating iv. none of these
4. Perkin reaction involves
i. a carbonyl compound ii. an acid anhydride
iii. unsaturated carboxylic acid iv. all the above
5. Among the following which one is not a chromophore
i. nitroso ii. azo iii. quinonoid iv. hydroxyl group

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

- 6.a. How are carbohydrates classified?
Or
b. What are diastereomers and epimers?
- 7.a. Write anyone synthesis of coniine.
Or
b. Briefly mention a few points about vitamin B₆
- 8.a. Briefly mention the Lowry- Bronsted theory of acids and bases.
Or
b. Write the reaction of malonic ester with the following
i. sodium ethoxide ii. alkyl halide
- 9.a. Discuss the stability of free radicals.
Or
b. Discuss the mechanism of Reformatsky reaction.
- 10.a. How are azo dyes prepared?
Or
b. Write any one method of preparation of Indigo.

Cont...

SECTION -C (30 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks

(5 x 6 = 30)

- 11.a. What are the uses of cellulose? Write in detail.
Or
b. Explain the interconversion of aldoses and ketoses.
- 12.a. Explain how the following are identified in the structure of alkaloids
i. hydroxyl group, -OH ii. Number of methoxy groups
iii. Amide group
Or
b. How is the structure of geraniol elucidated?
- 13.a. Discuss the factors affecting the strengths of acids and bases
Or
b. Explain any three synthetic applications of ethyl acetoacetate.
- 14.a. Illustrate the preparation of alkyl halides by allylic bromination method
Or
b. Write a note on Wittig and Knoevenagel reaction.
- 15.a. Give a detailed account on flavones.
Or
b. Write a note on i. Fluorescein ii. Malachite green

Z-Z-Z END