



B.Sc. VI Semester Degree Examination, Sept./Oct. - 2024

CHEMISTRY

**DSC - 8 : Advanced Organic Chemistry & Thermal Methods
(NEP)**

Time : 2 Hours

Maximum Marks : 60

Note : Answer *all* the sections.

SECTION - A

Answer the following sub-questions. Each sub-question carries **one** mark. **10x1=10**

1. (a) Write the Schiemann reaction. 1
- (b) What is amination reaction ? 1
- (c) Give an example of tripeptide. 1
- (d) What is Beckmann rearrangement reaction ? 1
- (e) What is Stereoselectivity ? 1
- (f) Write the Michael reaction. 1
- (g) Define point group. 1
- (h) What is Differential Scanning Colorimetry ? 1
- (i) Define character table. 1
- (j) What is meant by thermogravimetry analysis ? 1

SECTION - B

Answer **any four** of the following questions. **4x5=20**

2. Explain Benzyne mechanism. 5
3. Explain the hydrogenation of double bond and triple bond with example. 5
4. Explain the protection of amino group by Benzyloxy Carbonyl group (z). 5
5. Discuss reducible and irreducible representation. 5
6. Explain the basic principle of DTA. 5
7. Write the great orthogonal theorem equation and give its applications. 5



SECTION - C

Answer **any three** of the following questions.

3x10=30

- 8.** (a) Explain the arenium ion mechanism. **6**
(b) Write the following reactions : **4**
(i) Vilsmeier - Haack reaction.
(ii) Gatterman reaction.
- 9.** (a) Explain the addition of Grignard reagent to Carbonyl Compounds. **6**
(b) Explain E_1CB mechanism. **4**
- 10.** (a) Explain Pinacol - Pinacolone rearrangement reaction. **6**
(b) Discuss the cleavage of peptide bond by chemical and enzymatic method. **4**
- 11.** (a) Explain the symmetry elements and symmetry operations. **6**
(b) Write the character table of C_3 and C_{2V} point group. **4**
- 12.** (a) Explain the techniques for quantitative estimation of Ca and Mg from their mixture. **6**
(b) Explain the basic principles of conductometric titrations. **4**

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