



**ST-301002**

Seat No. \_\_\_\_\_

**M. Sc. (Sem. I) Examination**

**February - 2021**

**MSC1C102 : Organic Chemistry**

**Time : 2 Hours]**

**[Total Marks : 50**

**Instructions:**

1. Answer only three(3) question.
2. Q.No. 9 is compulsory and carries 14 marks.
3. Answer any two questions from questions No.1 to 8.Each question carries 18 marks

**1. Answer the followings.**

- a) compare chugaev andcope reactions with suitable example.
- b) compare E1,E2,E1cb pathways.

**2. Answer the followings.**

- a) Discuss SET mechanism with suitable example.
- b) Compare  $SN^1$  and  $SN^2$  reaction with suitable example.

**3 . Answer the followings.**

- a) Explain Ring current and Aromaticity.
- b) Discuss aromaticity in different annulenes.

**4. Answer the followings.**

- a) Give Hammett equation and explain all terms of the equation.
- b) explain salicylic acid is more acidic than parahydroxy benzoic acid.

**5. Answer the followings.**

- a) What are nitrenes? Discuss distinguish reactions of carbenes and nitrenes.
- b) Discuss Non classical carbonium ion.

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**[Contd...**

6. Answer the followings.

- ✓ a) Discuss the mechanism and application of Lossen rearrangement.  
✓ b)  $R-CO-R + HN_3 \xrightarrow{H_2SO_4} A$  Identify product A. name the rearrangement and after suitable mechanism for this conversion.

*Semi-*

7. Answer the followings.

- a) Discuss the stereo chemistry in syn, anti additions to alkene.  
b) Discuss prochiral relationship with suitable example.

8. Answer the followings.

- a) Explain the term optical isomerism and geometrical isomerism.  
b) Explain origin of chirality and chiral centre.

9. Answer the following question.

1. Write principle of Lossen rearrangement ✓
2. Give the limitation of Huckel's rule.
3. What are bridged carbocation?
4. What are carbenes?
5. Explain helicity.
6. Explain homo aromatic system.
- ✓ 7. Give the example of Wittig rearrangement. ✓
8. What is diastereoisomerism?
9. Why compared to [14] annulene [18] annulene is stable?
10. Give one example of prochiral centre?
11. How acid azides are converted to corresponding urethans?
12. What are neighbouring group effects?
13. Cyclohexanone  $\xrightarrow{HN_3HCl}$  product A.
- ✓ 14. What is Pinacol Pinacolone rearrangement?