SHRI RAMSWAROOP MEMORIAL UNIVERSITY

End Semester Examination (2021-22)-Odd Semester

B.Sc. (Hons.) – I Year (I Sem)	
Course Name: Organic Chemistry-I	**Code: BCY1003**
Time: 02 Hours	**Max Marks: 60**

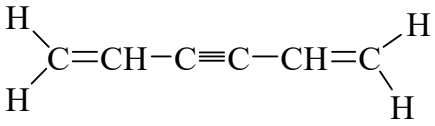
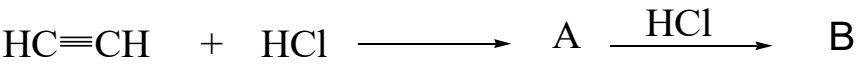
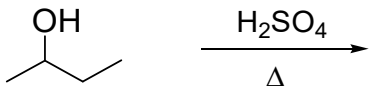
University Roll No.															

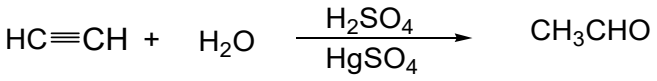
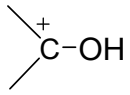
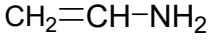
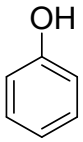
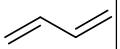
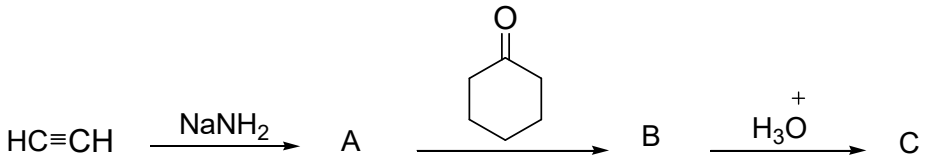
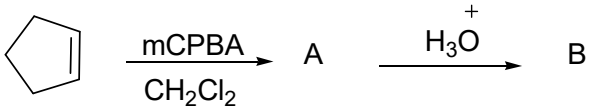
(To be filled by the Student)

Note: Please read instructions carefully:

a) The question paper has 03 sections and it is compulsory to attempt all sections.

b) All questions of Section A are compulsory; questions in Section B and C contain choice.

Section A: Very Short Answer type Questions **Attempt all the questions.**		**BL**	**CLO**	**Marks (10)**
1.	Identify the total number of sigma and pi bonds in the following molecule: 	BL1	CLO1	02
2.	Why trifluoroacetic acid is stronger acid than fluoroacetic acid?	BL1	CLO1	02
3.	Explain why but-2-ene is more stable than but-1-ene?	BL2	CLO2	02
4.	An alkane with molecular formula C_8H_{18} gives only one monochloro derivative, show its structure.	BL2	CLO3	02
5.	Find 'A' and 'B' in the following reaction: 	BL1	CLO2	02
Section B: Short Answer Type Questions **Attempt any 03 out of 06 questions.**		**BL**	**CLO**	**Marks (30)**
1.	Explain hyperconjugation and tell how hyperconjugation is helpful in explaining the stability of carbocations.	BL2	CLO2	10
2.	Discuss Markovnikov's rule giving suitable example.	BL2	CLO2	10
3.	Describe the structure and stability of singlet and triplet carbenes.	BL2	CLO2	10
4.	Predict the major product of the following chemical reaction and discuss the mechanism: 	BL3	CLO4	10
5.	Show the different conformations of ethane and explain which	BL3	CLO3	10

	conformation is most stable.			
6.	Illustrate the mechanism of the following chemical reaction: 	BL3	CLO4	10
Section C: Long Answer Type Questions **Attempt any 01 out of 04 questions.**		**BL**	**CLO**	**Marks (20)**
1.	Discuss the rules for drawing resonance contributors. Show contributing structures for each of the following species and predict which contributor in each case is most stable giving reason for your answer. (i)  (ii)  (iii)  (iv) 	BL3	CLO4	20
2.	Illustrate the structure and stability of carbanions and outline any 3 chemical methods for their generation.	BL3	CLO2	20
3.	Predict the product and outline the mechanism of following reactions: (i)  (ii) 	BL4	CLO4	20
4.	Explain angle strain theory of cycloalkanes and discuss its limitations.	BL5	CLO3	20
