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Total No. of Pages : 02

Total No. of Questions : 08

Ph.D in Faculty of Applied Science (Chemical Science)

ADVANCED ORGANIC CHEMISTRY

M.Code : 77360

Time : 3 Hrs.

Max. Marks : 70

INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carry FOURTEEN marks.

1. a) What do you mean by molecular orbital symmetry? Discuss the Frontier molecular orbitals of 1,3 butadiene.

b) Discuss the configuration of 1, 3, 5 hexatriene in ground and first excited state.
2. a) Give an account on Woodward-Hoffmann rule for electrocyclic reactions.

b) What are sigmatropic reactions? Describe the [1, 3], [1, 5] and [3, 3] sigmatropic reactions with suitable examples.
3. Describe the reactions of conjugated dienes.
4. a) Give synthetic importance of hydroboration of alkene.

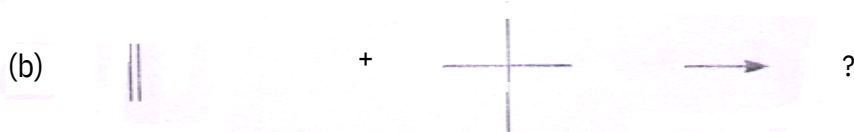
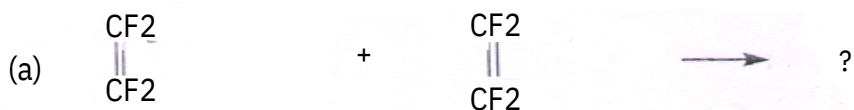
b) Discuss the isomerization of alkenes.
5. a) Describe Hetero Diels Alder reaction with suitable examples.

b) Explain regiochemistry and stereochemistry of Diels Alder reaction.
6. Describe the synthetic importance of following :

a) Suzuki reaction.

b) Negishi reaction.

7. a) Complete the following reactions :



b) Give the applications of transition metal salts in multicomponent cycloaddition reaction.

8. Write short notes on :

a) Phase transfer catalysis.

b) PMO

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.