2404N330

Candidate's Seat No :_____

M.Sc. Semester-4 Examination

507

Chemistry (O)

April-2023

Time : 2-30 Hours] **[Max. Marks : 70**

Q.1	(i)	What is electrocyclic reaction? Discuss FMO method for electrocyclic reaction and derive its selection rule.	07
	(ii)	What are pericyclic reactions? Discuss classification of pericyclic reactions with suitable examples of each sub divisions.	07
		OR	
	(i)	Discuss the cycloaddition reaction between ethylene and cis-2-butene.	07
	(ii)	Discuss the application of PMO method to predict cycloaddition and sigmatropic reaction.	07
Q.2	(i)	Discuss different kinds of strain with example.	07
	(ii)	Draw the projections and discuss various conformations of decalins.	07
		OR	
	(i)	Draw the projections and discuss various conformations of 1,2-di substituted cyclohexane.	07
	(ii)	Draw conformers of perhydrophenanthrene and discuss its stability with energy.	07
Q.3	(i)	Discuss the oxidation reaction of alkenes with examples.	07
	(ii)	Discuss the oxidation reaction of alcohols with suitable example.	07
		OR	
	(i)	Discuss the oxidation reaction of amines with two examples.	07
	(ii)	Discuss different oxidation processes in brief.	07
Q.4	(i)	Discuss the reduction of aldehydes and ketones with suitable example.	07
	(ii)	Discuss the reduction of esters with two example.	07
		OR	
	(i)	Discuss the mechanism of the Luche reduction with examples.	07
	(ii)	Discuss the reduction by electron transfer reagents.	07
Q.5		**Answer any seven out of twelve (each question carries 2 marks)**	14
	(i)	Define con rotatory and dis rotatory system.	
	(ii)	What is Oxidative Coupling?	
	(iii)	Define Bayer's strain.	
	(iv)	Write the full form of PMO method.	
	(v)	Which oxidative catalysts are used in Wackner reaction?	
	(vi)	Draw the structure of dodecalin.	
	(vii)	Write two applications of $POCl_3$.	
	(viii)	Write the name of two reducing agent.	
	(ix)	Write the importance of Zn/NH_4Cl with an example.	
	(x)	Define antarafacial shift.	
	(xi)	Draw the structure of phenyl hydrazine.	
	(xii)	Draw the structure of benzene diazonium chloride.	

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