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E93/A-431

SEAT No._____

No. of pages: 02

SARDAR PATEL UNIVERSITY

M.Sc. Semester-IV (Organic Chemistry) Examination

Saturday, 15th April -2017

PS04CORCO3-Stereochemistry of Organic Compounds

Time: 02:00pm to 05:00pm **Marks: 70**

Q.1 Select the correct answer. 08

1 The characteristic must be required for resolving agent....
(a) Pure form (b) Unstable
(c) High Molecular weight (d) High toxicity

2 In axial haloketone rule, Vertical plane 'A' passing through Carbone number.....
(a) 1 & 4 (b) 2
(c) 4 (d) 6

3 Isomers that are mirror images of each other are called...
(a) Enantiomers (b) Resolution
(c) Diastereomers (d) Free radical

4 The Enzymes are ..... With molecular weight of 12000 – 100000 Daltons.
(a) vitamins (b) Proteins
(c) Carbohydrates (d) Lipid

5 CD and ORD spectrum provide important information regarding the secondary structures of ....
(a) Proteins (b) RNA
(c) DNA (d) Above all

6 In Cram's rule, the incoming group preferentially attacks on the side of plane containing the..... group.
(a) Medium (b) Large
(c) Small (d) Above All

7 Absolute chiral synthesis involve the formation of ..... compound.
(a) Optically inactive (b) Optically active
(c) Resolving agents (d) None of these

8 In case of formation of double helix, approximate stabilization energy of G≡ C is...
(a) 30 KJ/mole (b) 70 KJ/mole
(c) 50 KJ/mole (d) 60 KJ/mole

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Q.2		Answer the following(**Any Seven**)	14
	1	Define the terms: (i) Meso Compound (ii) Racemic Mixture.	
	2	Discuss the reaction for generation of first chiral center.	
	3	Draw the structure of bicycle [2.2.0] hexane and bicycle [2.2.1] heptane.	
	4	Discuss about the Prelog's Rule.	
	5	Discuss the Conrotatory motion in electrocyclic reaction with example	
	6	Discuss the Resolution of Aldehyde and ketone.	
	7	Draw the all conformation of cyclononane as monocyclic compound.	
	8	Define the term "cotton effect" and give it's importance.	
	9	What is Stereo Selective Reaction? Give suitable example.	
Q.3	A	Write short note on Asymmetric Synthesis by (A) Wilkinson as catalysts (B) Sharpless epoxidation	06
	B	Describe in detail: (A) Resolution through formation of diastereomers. (B) Resolution by chromatography	06
		OR	
	B	Give the experimental procedure for resolution of (±) 2-Octanal.	06
Q.4	A	Draw the potential energy diagram of n-butane, on the bases of different conformers.	06
	B	Write a note on conformational features of six member heterocyclic's	06
		OR	
	B	Draw the conformations of cycloheptane and cyclooctane under monocyclic compound	06
Q.5	A	Discuss the correlation diagram of [2+2] cycloaddition reaction for ethene to cyclobutane.	06
	B	Write a note on suprafacial and antarafacial in cycloaddition reaction.	06
		OR	
	B	State in brief 1,3 and 1,5 sigmatropic rearrangement, with suitable examples.	06
Q.6	A	Write a note on: ORD and CD curves.	06
	B	Draw the Structure of DNAs and discuss in detail.	06
		OR	
	B	Discuss the octant rule in cyclohexanone	06

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