Model Question Paper

Isomerism in Organic Chemistry - Part II

12th Standard

Chemistry

Reg.No. : | | | | | | |

I.Answer all the questions.
II.Use blue pen only.
III.Question number 15 is compulsory.

Time : 01:30:00 Hrs

Total Marks : 65

Part-A

5 x 1 = 5

1) Which of the following exhibits Geometrical isomerism?

(a) 2-Methyl-2-butene (b) 2-methyl propane (c) propylene (d) 2-butene

2) Geometrical isomerism is exhibited by (i) 1-pentene (ii) 2-pentene (iii) 2-chloro-2-pentene (iv) 3-methyl-2-pentene

(a) (i) and (ii) (b) (ii) and (iii) (c) (iii) and (iv) (d) (ii),(iii) and (iv)

3) For which of the following dipole moment is zero (i) fumeric acid (ii) trans-2,3-di bromo-2-butene (iii) Z-1,2 dibromo ethene (iv) Z-2, 3-dibromo-2-butene

(a) (i) and (ii) (b) (ii) and (iii) (c) (ii),(iii) and (iv) (d) (iii) and (iv)

4) Pick out the wrong statement

(a) Conformers are different forms that arises out o rotation about C-C single bond (b) Free rotation about C-C bond is not always possible

(c) Restriction for free rotation about C-C is less pronounced in cyclic systems (d) Restriction to rotation depends on nature and size of the atoms or groups bonded

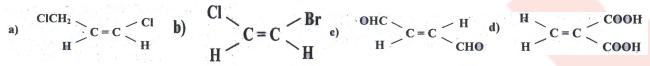
5) Which among the following has a planar conformation?

(a) Cyclo propane (b) Cyclo butane (c) Cyclo pentane (d) Cyclo hexane

Part-B

5 x 3 = 15

6) Identify each of the following alkenes as being either cis or trans.

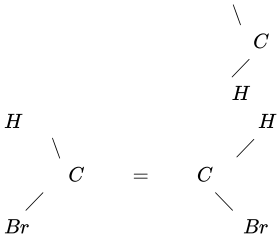


7) Give the structural formula for the simplest chiral: (a) Alking, (b) Alkene, (c) alkyne, (d) alcohaol, (e) aldehyde, (f) ketone, (g) carboxylic acid, (h) amine

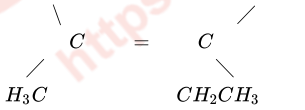
8) Which among the following does not exhibit geometrical iosmerism? (a) $CH_3 - CH = CHBr$ (b) CH_2BR (c) $(CH_3)_2C = CHC_2H_5$ (d)

$CH_3CH = CHCHO$

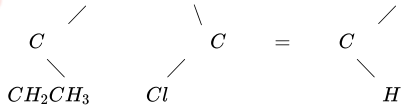
9) Give E/Z - designation for, (a)



(b)



(c)



(d)

10) Give the structure of Z and E forms of cinnamic acid.

Part-C

5 x 5 = 25

11) Describe the D, L-system of designation of configurations.

12) Explain the isomerism in disubstituted benzene.

13) Explain the internal and external compensation with suitable examples.

14) Among cyclohexanol with axial-OH and equatorial -OH which is more stable? Why?

15) a) Mesoform has two similar asymmetric carbon atmos.Even then it is optically inactive.Why?

(OR)

b) Explain the optical isomerism of tartaric acid.

Part-D

2X10=20

16) a) Distinguish enantiomer from diastereomer

b) Explain geometrical isomerism with example.

17) a) Explain external compensation.

b) Distinguish enantiomer and diastereomer with examples

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