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B. Pharm. (Semester – IV) (New CBCS) Examination, 2018**ORGANIC CHEMISTRY – III**

Day and Date : Thursday, 13-12-2018
Time : 2.30 p.m. to 5.30 p.m.

Max. Marks : 70

I. Choose the most appropriate one from the following answers : **(1×15=15)**

1) Order of migration of groups in Wagner-Meerwein rearrangement is

- a) Methyl > t-Butyl > Phenyl b) Phenyl > Methyl > t-Butyl
c) t-Butyl > Phenyl > Methyl d) Phenyl > t-Butyl > Methyl

2) Addition of water to this alkene is faster in

- a) Ethene b) Propene c) E-Butene d) Z-Butene

3) Fries rearrangement leads to products with substitution at _____ positions.

- a) Ortho b) Para
c) Meta d) Both ortho and para

4) Markovnikov's addition is seen with _____ addition reaction.

- a) Hydration b) Halogenation
c) Hydroboration-Oxidation d) Hydrogeneration

5) The term anti-periplanar means

- a) $\pm 30^\circ$ same side b) $\pm 60^\circ$ same side
c) $\pm 30^\circ$ opposite side d) $\pm 150^\circ$ opposite side

6) Willgerodt rearrangement reaction belongs to _____ type.

- a) Electrophilic b) Aromatic c) Radical d) Nucleophilic

7) The group with highest priority in according to CIP rules

- a) $-\text{CCl}_3$ b) $-\text{C}=\text{O}$ c) $-\text{C}\equiv\text{N}$ d) None

8) Halogenation reaction is

- a) Stereoselective b) Regioselective
c) Stereospecific d) Chemoselective

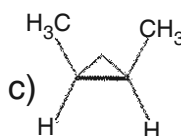
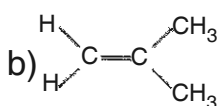
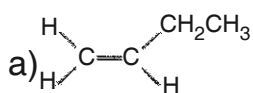
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9) _____ isomers are generated by rotation of groups around a C – C bond.

- a) Geometric b) Conformational
c) Enantiomers d) None

10) Identify the geometrical isomer from the following :



d) None

11) Pyrolysis requires

- a) Solvent b) Heat c) Light d) Agitation

12) Choose correct reagent for completing the following reaction :



- a) HCl, H₂O b) NaOH c) NaOET d) H₂O

13) In a substitution reaction, small sized, strong nucleophiles lead to _____ type of reaction.

- a) S_N1 b) S_Ni c) S_N2 d) E1

14) Identify the reaction type



- a) Pyrolysis b) Electrocyclic c) Cycloaddition d) Sigmatropic

15) _____ differentiates mesomers from enantiomers.

- a) Symmetry b) Rotation around bond
c) Connectivity d) Rigidity

II. Answer **any five** questions of the following :

(5x5)

- 1) Define addition reaction. Explain a method in which *synaddition* occurs.
- 2) Describe *Curtius* rearrangement reaction.
- 3) Enlist the role of conformation in chemistry and biology. Describe briefly Butane's conformational analysis.

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- 4) How are geometrical isomers named ? Explain.
- 5) Write a note on pericyclic reactions including their synthetic applications.
- 6) Define and give an example for : Tautomer; Mesomer; E-Z-isomer; Rotamer.

III. Answer **any three** questions of the following : **(3×10)**

- 1) Describe SN1 and E2 reaction taking an example. Add note on stereochemistry. **(5+5)**
 - 2) Explain *Claisen* rearrangement and *Dakin oxidation*. **(5+5)**
 - 3) Describe chemical and physicochemical methods of separation of enantiomers.
 - 4) Write a note on :
 - a) Diels Alder reaction
 - b) Cope elimination. **(5+5)**
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