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PY-203

B.Pharmacy II Semester

Examination, June 2017

Pharmaceutical Chemistry-III

(Organic-I)

Time : Three Hours

Maximum Marks : 70

Note: i) Answer any five questions.
ii) All questions carry equal marks.

1. a) Give examples of neutral and charged electrophiles and nucleophiles. Discuss their addition and substitution reactions.
   b) Discuss production of carbocations and carbonions. Write their chemical properties.

2. a) Explain how configurational isomers differ from conformers. Show how enantiomers differ from diastereomers in their physical and chemical properties.
   b) Show how racemic modification differs from meso structure and why absolute configuration has been adopted in place of relative configuration.

3. a) How will you prepare alkanes via Grignard reagent and coupling of alkyl halides with organometallic compounds? Give reaction equations.
   b) Through reaction equations explain influence of substituents on electrophilic and nucleophilic substitution reactions in aromatic compounds.

4. a) Write reaction equations to explain free radical and electrophile addition reaction on alkenes and substitution reaction on allylic compounds.
   b) Discuss 1, 4 - Vs 1, 2 electrophilic addition to conjugated dienes.

5. a) Explain SN2 Vs SN1 and E2 Vs E1 reactions in alkyl halides.
   b) Give reaction equations for elimination - addition (Benzyne) and addition - elimination (SNAr) in aryl halides.

6. a) Compare acidity of phenol with that of alcohol. Discuss conversion of alcohol to tosylate and its synthetic significance.
   b) Discuss Williamson synthesis of ethers and its clearage by acids.

7. a) Give reaction equations for preparation of aldehydes and ketones. Discuss nucleophilic addition reactions in carbonyl compounds.
   b) Explain effect of substituent on α - carbon on acid strength and give chemical properties of acids and amides.

8. a) Show how aliphatic amines are more basic than aromatic amines. Write reaction equations for synthesis aliphatic and aromatic amines in the laboratory.
   b) Discuss preparation and reactions of diazonium salts through chemical equations.

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