M.SC.-I (Chemistry) Second Semester Old

CHE-202 - Organic Chemistry

P. Pages : 2 **GUG/W/18/2243**

Time : Three Hours * 1 7 4 0 * Max. Marks : 80

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1. a) Explain the following terms. **8**

i) Hydroboration.

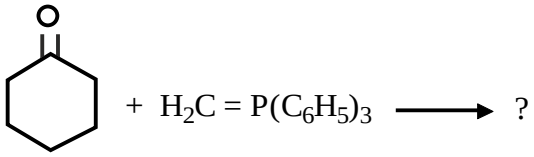
ii) Regio and chemo selectivity.

b) Write a note on mechanism of metal hydride reduction of saturated and unsaturated. Carbonyl compound. **8**

OR

c) Discuss Michael addition reaction. **4**

d) Identify the following reaction and give its mechanism. **4**



e) Explain Mannich reaction. **4**

f) Discuss Claisen condensation reaction. **4**

2. a) What are free radicals? Explain free radical substitution reaction mechanism of aromatic and aliphatic substrate. **8**

b) Discuss mechanism of following reaction. **8**

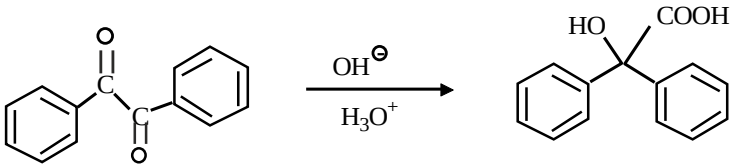
i) Wagner Meerwin reaction.

ii) Benzil - Benzilic acid rearrangement.

OR

c) What is pinacol? Explain the mechanism of pinacol- Pinacolox rearrangement. **4**

d) Suggest the name of the following rearrangement reaction and give mechanism. **4**



e) Write a short note on Neighbouring group participation with example. **4**

f) Explain the effect of solvent on reactivity of free radical reaction. **4**

3. a) Explain the following. **8**

i) Auto-oxidation. ii) Hunsdiecker reaction.

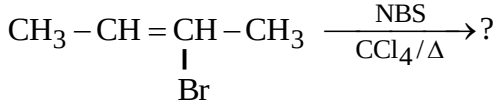
b) Explain mechanism and orientation of pyrolytic elimination. **8**

OR

c) Explain E,CB mechanism with example. **4**

d) Write a note on Sandmeyer reaction. **4**

e) Give the mechanism of Allylic halogenation with the help of NBS and complete the following reaction. **4**



f) Explain Hoffmann's rule and Saytzeff rule with suitable example. **4**

4. a) Explain the synthesis of following using Green chemistry **8**
1) Paracetamol
2) Ibuprofen

b) Give basic principles of Green chemistry. **8**

OR

c) Explain Ugi reaction. **4**

d) Write a note on sonochemistry. **4**

e) What is Nanochemistry? Explain Nanotubes and Nanorods. **4**

f) Explain Choice of solvent in green chemistry. **4**

5. a) Explain addition of free radicals to cyclopropane. **2**

b) Write short note on Curtius rearrangement. **2**

c) Explain Stobbe reaction. **2**

d) What is Reed reaction? **2**

e) Write a note on E_1 reaction. **2**

f) Give the types of different free radical reactions. **2**

g) Write Biginelli reaction. **2**

h) Describe Zeolites. **2**

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