

## BSc Organic Chemistry (Hons), Major-II

### Question Bank

UNIT-I: structural theory in organic chemistry:

- 1) Define and explain Inductive effect?
- 2) Explain applications of Inductive effect?
- 3) Define and explain mesomeric effect?
- 4) Explain applications of mesomeric effect?
- 5) Write about applications of mesomeric effect or resonance?
- 6) Explain hyper conjugation?
- 7) Write an essay on types of reactions?

UNIT-II: ACYCLIC HYDROCARBONS: ALKENES:

1. Explain preparation and properties of Alkenes?
2. Explain Markonikov's and antimarkonikov's rule?
3. Explain 1,2 and 1,4-addition of HBr to 1,3-Butadiene?
4. Explain Diel's-Alder reaction?

UNIT-III: ALKYNES:

1. Explain preparation and properties of Alkynes?
2. Preparation of higher acetylenes and metal ammonia reduction?
3. Explain following reactions of acetylene
  - (i) Electrophilic addition of  $X_2$ , HX and  $H_2O$
  - (ii) Oxidation with  $KMnO_4$
  - (iii) Polymerization reaction?

UNIT-IV: CYCLOALKANES:

1. Explain preparation and properties of cycloalkanes?
2. Explain Baeyer's strain theory for stability of cycloalkanes?
3. Write about conformations of Cyclohexane?
4. Explain Sache-Mohr theory for stability of cycloalkanes?

UNIT-V: BENZENE AND ITS RECTIVITY:

1. Explain Hucke's rule for aromaticity?
2. Differences between benzenoid and non benzenoid compounds?
3. Explain 1) Fiedal craft's alkylation 2) Friedal crafts acylation.
4. Explain ring activating groups by using 1) amino 2) methoxy and 3) methyl groups?
5. Explain ring deactivating groups by using 1) carboxy 2) nitro 3) nitrile groups?