

M.Sc.(Chem.) Semester - 1 (CBCS) Examination
Nov/Dec-2023 (SYLLABUS YEAR JUNE-2016)
ORGANIC CHEMISTRY(CORE)

Time: 2:30 Hours**Marks: 70****Instructions:**

1. Figures to the right indicate marks.
 2. All questions are compulsory.
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- Que.1 Answer any seven of the following ten questions. (14)
- 1) What is hyperconjugation effect?
 - 2) Write principle of Beckmann rearrangement.
 - 3) Discuss stability of carbene.
 - 4) Explain inductive effect.
 - 5) What is benzyne? How will you prepare benzyne.
 - 6) What product will form when pyrrole reacts with POCl_3 & DMF.
 - 7) Discuss principle of Prins reaction.
 - 8) Discuss synthesis of enamine.
 - 9) Write the principle of Suzuki coupling reaction.
 - 10) How will you prepare phenyl isocyanate.
- Que.2 Answer any two of the following three questions. (14)
- Describe the following reagents in detail.
- 1) Gillman
 - 2) $\text{Rh}(\text{PPh}_3)_4\text{Cl}$
 - 3) DDQ
- Que.3 Answer the following questions. (14)
- 1) Discuss migratory aptitude in the Beckmann rearrangement.
 - 2) Explain Stobbe condensation reaction.
 - 3) Discuss Bouveault–Blanc reduction.
- OR
- Que.3 Answer the following questions.
- 1) Describe Neber rearrangement in detail.
 - 2) Explain principle, mechanism and applications of Birch-reduction reaction.
- Que.4 Answer following questions. (14)
- (A) Answer any two of the following three questions.
- 1) Describe synthesis and three applications of the Wilkinson catalyst.
 - 2) Discuss stereoselectivity of hydroboration reaction.
 - 3) Write a note on the Sharpless asymmetric epoxidation.
- (B) Answer any one of the following two questions.
- 1) Discuss Noyori annulation reaction.
 - 2) Write a note on TBAB.
- Que.5 Answer any two of the following four questions. (14)
- Describe principle, mechanism, and three applications of the following reaction.
- 1) Biginelli reaction
 - 2) Passerini reaction
 - 3) Beckmann rearrangement
 - 4) Reformatsky reaction
