

[Time: 3 Hours]

[Max. Marks: 75]

**Advanced Organic Chemistry – I**

**Q.P. CODE: 5118**

Your answers should be specific to the questions asked.

Draw neat, labeled diagrams wherever necessary.

**LONG ESSAY (Answer any Three)**

**3 X 10 = 30 Marks**

1. Explain mechanism, relative reactivity and orientation of SN 1 and SN 2 reactions.
2. Explain mechanism of ullman coupling and sandmeyer reaction. Write their synthetic applications.
3. Explain synthesis of imidazole and pyrimidine. Write their applications.
4. Explain role of Functional Group Interconversion and Addition (FGI and FGA) in retrosynthesis with examples.

**SHORT ESSAY (Answer any Nine)**

**5 X 9 = 45 Marks**

5. Define carbocation. Explain its formation and stability. Write its synthetic application.
6. Define carbanion. Explain its formation. Write its synthetic application.
7. Explain mechanism of Sandmeyer reaction.
8. Explain mechanism of Baeyer villager oxidation.
9. Explain mechanism of protection of acetals and ketals.
10. Explain mechanism of protection of f 1,2 and 1,3 diols.
11. Explain role of wittig reagent in synthesis with suitable examples.
12. Explain synthesis of any one drug molecule containing quinoline nucleus.
13. Explain synthesis of pyrazole.
14. Explain strategies for synthesis of five memered rings with suitable examples.

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