

# ADICHUNCHANAGIRI UNIVERSITY

Pharm.D Annual Examination – September 2019

**TIME: 3 HOURS**

**MAX.MARKS: 70 MARKS**

**Sub: Pharmaceutical Organic Chemistry**

**Q P Code: - 44103**

**INSTRUCTIONS:** 1. Your answer should be specific to the questions asked.  
2. Write legibly.  
3. Write the same question numbers as they appear in this question paper.  
4. Draw neat labelled diagrams wherever necessary.

**LONG ESSAY (answer any two)**

**2X10=20**

1. Explain the mechanism of :
  - a) Dehydrohalogenation of alkyl halides
  - b) Chlorination of methane
2. Explain Bayer's strain theory of Cycloalkanes along with its merits and de-merits.  
Write a note on theory of strain in rings.
3. Explain the mechanism, kinetics and stereochemistry involved in nucleophilic substitution unimolecular reaction ( $SN_1$ ).

**SHORT ESSAY (answer any six)**

**6X5=30**

4. Write the preparation and uses of Sodium Lauryl Sulphate and Mephensin.
5. Explain the mechanism involved in the Markonikov's and Anti-Markonikov's rule.
6. Discuss the mechanism involved in Aldol and Crossed aldol condensation reaction.
7. Explain the dehydration of alcohols with mechanism.
8. Define acidity. Explain the effect of substituents on the acidity of the carboxylic acids.
9. Discuss the mechanism involved in nitration and sulphonation of benzene.
10. Give reasons why a chloro group is deactivating and ortho para directing in Electrophilic aromatic substitution reaction.
11. Define free radicals and write a note on stability of free radicals.

**SHORT ANSWERS (answer all)**

**10X2=20**

12. What is polar protic solvent? Give two examples.
13. Define the terms: "Polarity" and "Isomerism".
14. What is diazotisation? Write an example.
15. Which is more stable: trans-2-butene or cis-2-butene? Why?

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16. What is hyper conjugation? Give examples.
17. Nomenclature of aldehydes.
18. Why water boiling point is more than ethanol and ethanol boiling point is more than acetone.
19. Define keto-enol tautomerism with examples.
20. What are carbenes? Write example.
21. Define leaving group with examples.

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ACU, 07-09-2019 at 9.30 am to 12.30 pm