

COURSE CODE - 2030202
PG DEGREE EXAMINATION- JAN 2009
M.SC (CHEMISTRY)
ORGANIC CHEMISTRY - I

(For the Candidates Admitted from Calendar Year 2007)

Time: 3 hours

Max. Marks: 75

Section-A

Answer all the Questions:

15 X 1=15

1. An example of Lewis acid is _____
2. CH_2Cl_2 is _____ acidic than CHCl_3 .
3. Give an example for a electron withdrawing group.
4. What is chiral carbon?
5. Define configuration.
6. Write the structure of biphenyl.
7. Define Huckle's Rule.
8. Give an example of a free radical.
9. Molecular formula of carbene is _____.
10. What is intersystem crossing?
11. Define conformation.
12. Energy of a photon is $E =$ _____
13. Write the structure of sucrose.
14. Zeigler – Natta catalyst is _____.
15. Give an example for addition polymer.

Section – B

Answer any Five Questions:

5 X 6 = 30

16. a. Explain the principle of microscopic reversibility.

(Or)

- b. What is inductive effect? Explain with example.

17. a. Discuss briefly the optical activity of spiranes.

(Or)

- b. Illustrate the rules followed in E, Z-nomenclature with example.

18. a. Discuss the chemistry of cyclopentadienyl anion.

(Or)

- b. Explain the structure and stability of carbocations.

19. a. Explain Paterno-Buchi reaction with example.

(Or)

- b. Discuss the Norrish type I and type II reactions.

20. a. Explain the configuration of sucrose.

(Or)

- b. Give an account of steric effects on the strengths of acids and bases.

Section – C

Answer any Two Questions:

2 X 15 = 30

21. Discuss the kinetic and non kinetic methods to investigate the reaction mechanism.
22. Discuss the stereochemistry of biphenyls and explain how it arises.
23. What are nitrenes? Explain the formation, structure, reaction and stability of carbocations.
24. Discuss the conformation analysis of mono and disubstituted cyclohexane derivatives.
25. Explain the Geometrical isomerism in carbon and Determination of configuration of geometrical isomers.