



Date: 01-11-2018
Time: 09:00-12:00

Dept. No.

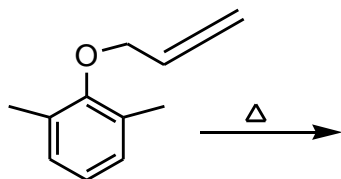
Max. : 100 Marks

SECTION A

Answer all the questions

(10x2=20)

1. Is a carbonyl group polar? Why?
2. Predict the product(s)
 $2\text{C}_6\text{H}_5\text{CHO} + \text{KCN} \text{ -----} \rightarrow ?$
3. Write the structure of Pyruvic acid and Tartaric acid.
4. How is malonic acid prepared?
5. Predict the product



6. What is the significance of Beckmann rearrangement?
7. What are active methylene compounds?
8. Write the structures of acetoacetic ester and cyanoacetic ester.
9. Write any one method of preparation of CH_3MgBr .
10. What is a coupling reaction? Give an example.

SECTION B

Answer any eight questions

(8x5=40)

11. Which is a better reducing agent, LiAlH_4 or NaBH_4 ? Explain.
12. What is the essential condition a carbonyl compound should satisfy to undergo haloform reaction?
Write the mechanism.
13. Explain with mechanism Norrish type I and Norrish type II reactions.

14. (i) Write the increasing order of acidity of the following
 a) Chloroacetic acid (b) Dichloroacetic acid (c) Trichloroacetic acid.
 ii) Explain the effect of substituents on acidity.
15. Write the physical properties of acetic acid.
16. What are the methods of preparation of carboxylic acids?
17. Explain the classification of molecular rearrangements.
18. Explain benzilic acid rearrangement with mechanism.
19. What is Hoffmann rearrangement reaction? Explain with an example.
20. Write any five synthetic uses of malonic ester.
21. What are the properties of Grignard reagents?
22. Explain any two substitution reactions involving organometallic compounds.

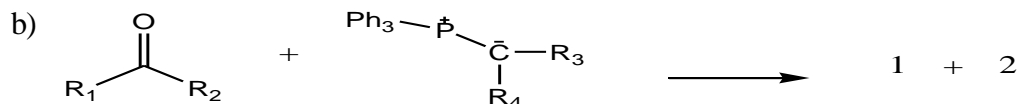
SECTION C

Answer any four questions

(4x10=40)

23. a) Explain the mechanism of Reformatsky reaction with an example.

(5)



Predict the products 1 and 2. Name the reaction and write its mechanism.

24. a) Write a note on the preparation and reaction of acid chloride .

b) How are oxalic and succinic acids prepared ?

25. a) Explain the action of heat on hydroxy and amino acids.

b) Explain Cope and Oxycope rearrangements.

26. a) What is Pinacol – Pinacolone rearrangement ? Explain its mechanism and stereochemistry.

27. a) How is cyanoacetic ester prepared? Write its synthetic uses.

b) Write the preparation , properties and synthetic applications of diazomethane.

28. Explain in detail the catalytic properties of crown ethers.
