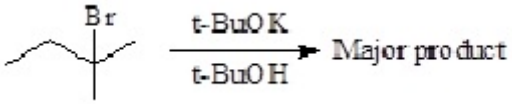
M.Sc. DEGREE EXAMINATION,APRIL 2020
I Year II Semester
Organic Chemistry - II

Time : 3 Hours **Max.marks :75**

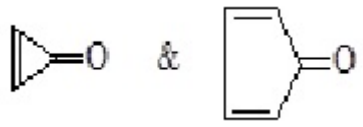
Section A $(10 \times 2 = 20)$ Marks

Answer any **TEN** questions

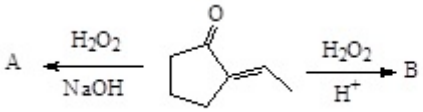
1. "Ylides are carbon nucleophiles" Justify.
2. Mention the role of CN- ion in Benzoin condensation reaction.
3. Predict the major product in the following reaction.



4. Mention any two methods of preparation of free radicals.
5. Why cyclopropenone is a stable compound while cyclopentadienone has not been prepared?



6. Write the mechanism of Fries rearrangement reaction.
7. Give an example for Cope rearrangement reaction.
8. Identify A and B.



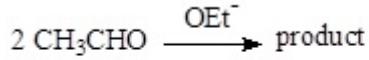
9. What is Swern oxidation? Give an example.
10. What is MPV reduction?
11. Predict the product for the reaction of 2-butyne with $Na/liq.NH_3$.
12. What is Simmon Smith reaction?

Section B $(5 \times 5 = 25)$ Marks

Answer any **FIVE** questions

13. Explain the use of Cram's dipolar model in the stereoselectivity of the reaction.

14. Discuss about E1cB mechanism with a suitable example.
15. Explain the di-pi methane rearrangement using suitable example.
16. What is Sommelet–Hauser rearrangement reaction? Explain with suitable mechanism.
17. Explain the conversion of carboxylic acid into (i) amides and (ii) esters using DCC.
18. Predict the product for the following reaction and justify your answer with suitable mechanism.



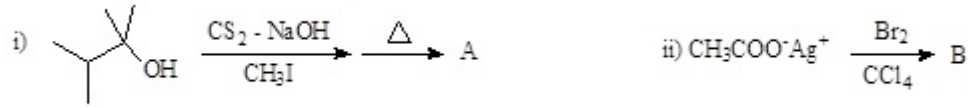
19. Explain Michael addition reaction with suitable example.

Section C $(3 \times 10 = 30)$ Marks

Answer any **THREE** questions

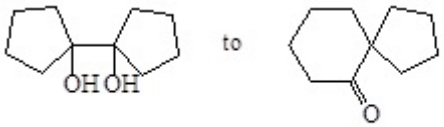
20 a. "Reaction of carbene with olefins follows non-stereospecific addition in gas phase". Justify this statement with suitable example. (2)
b. Explain the following with suitable example. (4 + 4)
i) Stobbe condensation ii) Acyloin condensation

21 a. "Dehydrohalogenation of erythro-1-bromo-1,2-diphenyl propane by E2 reaction is stereospecific".Justify this statement with suitable mechanism. (5)
b. Find A and B. Mention the name of these reactions.



(5)

22. Explain the following with suitable examples.
a) Barton reaction b) Paterno - Buchi reaction (5 + 5)
23. a. Effect the following conversion and explain using suitable mechanism.



b. Explain Von Richter rearrangement with a suitable example.

24. a. Give any two synthetic applications each of Clemensen and WolfKishner reduction reactions. b. Predict the product for the reaction of cis 2-butene by i) Woodward Prevost hydroxylation and ii) Sharpless asymmetric epoxidation.

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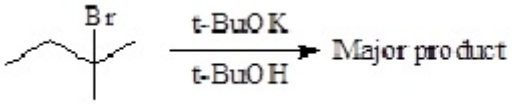

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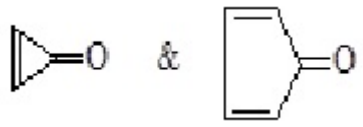

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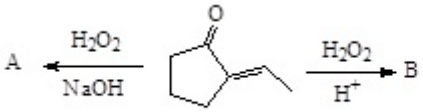

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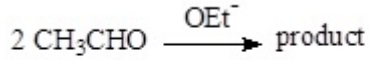

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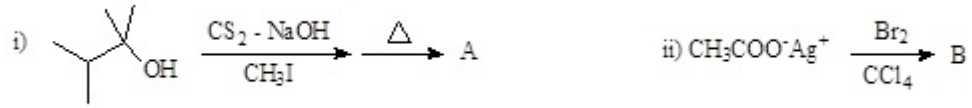

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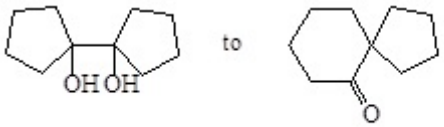

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