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Total Number of Pages : 02

M.Sc.
16MCYC202

2nd Semester Back Examination 2017-18

ORGANIC CHEMISTRY– II

BRANCH : M.Sc.(AC)

Time : 3 Hours

Max Marks : 70

Q.CODE : C708

Question No.1 which is compulsory and any five from the rest

The figures in the right hand margin indicate marks.

Answer all parts of a question at a place.

Q1 Answer the following questions. (2 x 10)

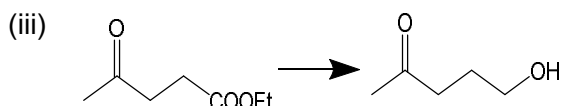
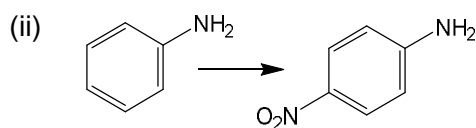
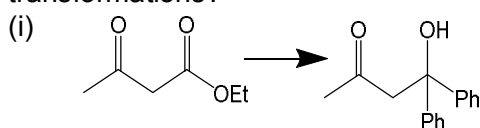
- What is retrosynthesis? Discuss its importance in organic synthesis.
- Cite an example explaining the concept of chemo selectivity in organic synthesis.
- What is Chelotropic elimination? Give a reaction.
- Explain the terms Synthons and Synthetic equivalent with suitable examples.
- What is Umpolung in organic synthesis? Cite an example.
- What is Cope rearrangement? Cite an example.
- Cite an example of Wittig reaction in retrosynthesis.
- Give the classification of Pericyclic reaction.
- Mention an example of ene reaction.
- What is regioselectivity in organic synthesis? Give an example.

Q2 a) Discuss the importance of order of events in organic synthesis. (5)

b) Citing suitable examples, discuss the different routes used for amine synthesis. (5)

Q3 a) What is a protecting group? Cite the important features for a good protecting group in organic chemistry (4)

b) Using the concept of protecting groups how will you bring about the following transformations? (6)



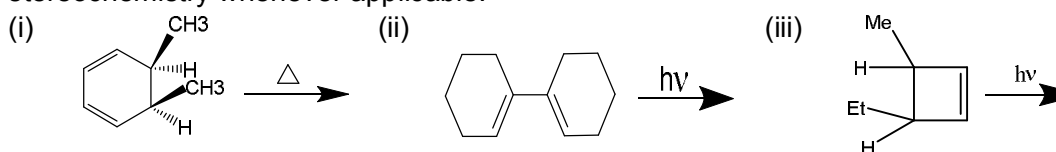
Q4 a) Draw the π -molecular orbitals of 1,3, 5-hexatriene using FMO approach. (5)

b) A $\pi^2S + \pi^2S$ cycloaddition reaction is thermally forbidden but photochemically allowed. Rationalize. (5)

Q5 Write short notes on the following :

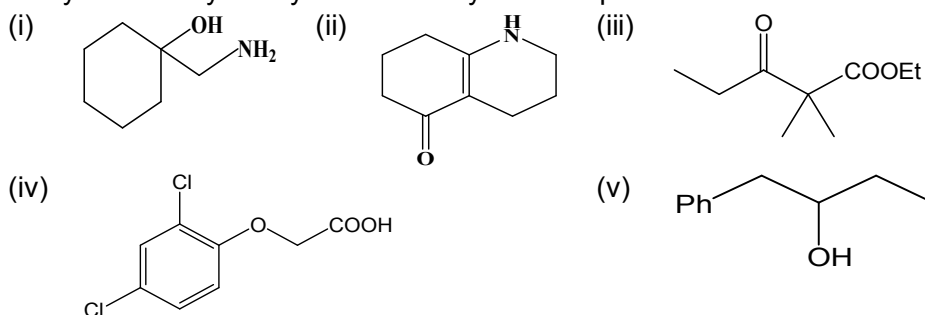
- Sigma tropic rearrangement (4)
- Diels Alder Reaction (3)
- Robinson annulations (3)

Q6 a) Predict the product(s) of the following pericyclic reactions. Write down the stereochemistry whenever applicable. **(6)**

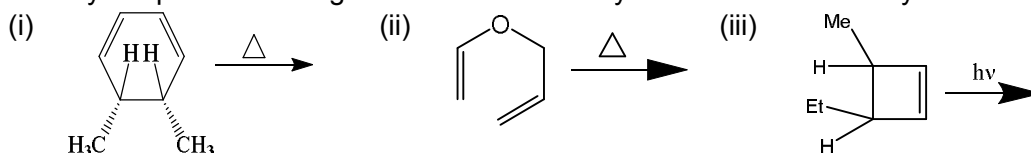


b) Explain Fluxional tautomerism with suitable examples. **(4)**

Q7 Design the synthesis of the following target molecules using retrosynthetic analysis. Identify the synthons and synthetic equivalents in each case. **(10)**



Q8 a) Identify the products and give its stereochemistry where ever necessary. **(6)**



b) Write a short note on the use of acetylene in organic synthesis. **(4)**