

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION)

CLASS: IMSC
BRANCH: CHEMISTRY

SEMESTER: V
SESSION : MO/2019

SUBJECT : IMC5005 ORGANIC CHEMISTRY - II

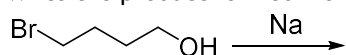
TIME: 1.5 HOURS

FULL MARKS: 25

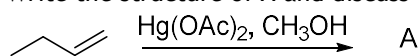
INSTRUCTIONS:

1. The total marks of the questions are 30.
 2. Candidates may attempt for all 30 marks.
 3. In those cases where the marks obtained exceed 25 marks, the excess will be ignored.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. The missing data, if any, may be assumed suitably.
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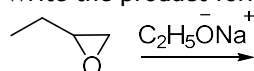
Q1 (a) Write the product formed from following reaction. [2]



(b) Write the structure of A and discuss the mechanism for its formation. [3]



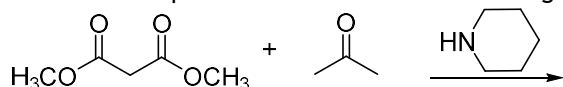
Q2 (a) Write the product formed from following reaction. [2]



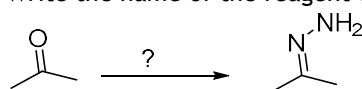
(b) In a Zeisel's estimation, 2.15 g ether sample was first treated with Conc. HI and then with AgNO_3 solution. The dried weight of precipitate formed was 1.25 g. Calculate the % of methoxy group in the given ether. [3]

Q3 (a) What is Knoevenagel condensation? [2]

(b) Discuss the stepwise mechanism of the following Knoevenagel condensation reaction. [3]

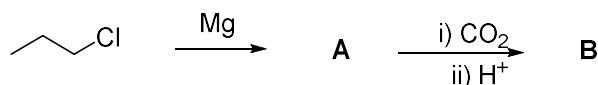


Q4 (a) Write the name of the reagent to prepare following compound. [2]



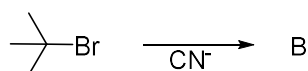
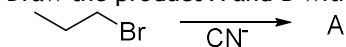
(b) Which among aldehyde and ketone is more reactive towards nucleophilic addition? Explain your answer. [3]

Q5 (a) Write down the structure of A and B. [2]



(b) Draw a reaction mechanism for Hunsdiecker Reaction using propionic acid. [3]

Q6 (a) Draw the product A and B with explanation. [2]



(b) Briefly describe about Nucleophilic Acyl Substitution Reaction. Draw the reaction mechanism of acyl halides (CH_3COCl) with ethanol. [3]