



Sanjay Ghodawat University, Kolhapur

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FY M Sc

School of Sciences

CHS 502

Organic Chemistry - II

Sem-II

22 May 2018

Examination: ESE, Max Marks: 100, Time 3 Hr

10:30 AM To 1:30 PM.

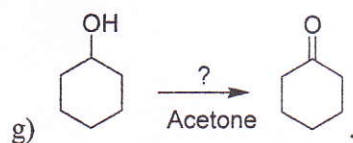
Instructions: 1) All Questions are compulsory.

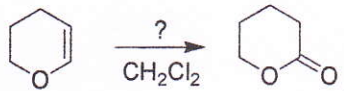
Q. 1) Short answer

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- a) Synthesis of o-formylphenol from phenol and chloroform in alkaline medium. This reaction is name as.....
- A) Maninich
B. Dakin.
C. Chichibabin
D. Reimer-Tieman
- b) Benzoin Condensation gives.....
- A. α -hydroxyl ketones
B. β -hydroxyl ketones
C. Ketones
D. none of this
- c) Robinson annulation give product.
- A) α -hydroxyl ketones
B. Six member cyclic α , β -unsaturated ketones
C. Six member cyclic β -hydroxyl ketones
D. none of this
- d) $\text{CrO}_3 + \text{H}_2\text{SO}_4 + \text{Acetone}$ is
- A. Collins reagent
B. Jones reagent.
C. PDC
D. PCC
- e) In oxidation using OsO_4 -----is used as co-oxidant.

- E. Silica
 - F. Mn
 - G. NMP
 - H. none of this
- f) For conversion of alcohol to carbonyl function.....based reagent is used
- A. Cr
 - B. Mn
 - C. Os
 - D. None of these.



- A. Jones reagent
 - B. DDQ
 - C. OsO₄
 - D. none of these
- h)
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- A. PCC
 - B. DDQ
 - C. OsO₄
 - D. none of these
- i) Which of the following compound is organo-lithium compound?
- A. BuLi
 - B. CdCl₂
 - C. Ph₂Cd
 - D. none of this
- j) For trans hydroxylation of olefine_____process is used.
- A. Woodward

- B. Prevost
- C. Clemmensen
- D. none of this

Q. 2) A Explain mechanism and give applications (Eight marks)

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- a) Riemer-Tiemann.
- b) Mc-Murry.
- Or
- c) Stobbe
- d) Mannich

B Explain in details (Eight marks)

- a) Hydroboration.
- Or
- b) What are enamines? Discuss their applications.

C. Explain mechanism and applications of Robinson annulations.

Q. 3) Write note on (Any Four)

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- a) Baeyer-Villiger oxidation.
- b) Oxidation with OsO_4 .
- c) Woodward-Prevost Hydroxylation.
- d) What are enamines? Discuss their applications.
- e) Chichibabin reaction.

Q. 4)

a. Reduction of Aldehyde and Ketone with Zn-Hg/HCl gives.....as a product.

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- A. Alcoholic compound
- B. Acidic compound
- C. Methylene compound
- D. none of this

b. In Catalytic hydrogenation reaction, which catalyst is used.

- A Platinum
- B Raney Nickel
- C Zn-Hg / HCl
- D All of the above

- c. Aldehyde on reduction with LAH gives.....
A 1° Alcohol,
B 2° Alcohol
C 3° Alcohol
D none of this
- d. Which of the following compound is not a organo-lithium compound?
A. BuLi
B. CH₃Li
C. CdCl₂
D. none of this
- e. 1,2 Diol is used for the protection of.....
A) Amine
B) Ketone
C) Ether
D) All of the above
- f. Protection of the amine done with
A) MOM,
B) MEM
C) THP
none of this
- g. Ferrocene is an organometallic compound of
D) Li
E) Cd
F) Fe
G) Ti
- h. LiAlH₄ can not reduce.....
H) Aldehydes
I) Nitriles
J) Esters
D) Aromatic rings
- i. Synthon is
A) Neutral species
B) Ionic species
C) Organometallic compound
D) None of these
- j. Deprotection of the alcohol is done with
A) H⁺/H₂O,

- B) H_3O^+
- C) F^-
- D) All of the above

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Q. 5)

A. Attempt any TWO of the following: (Eight marks each)

- a) Explain acetals and ketals as a protecting group for alcohol
- b) Give the different type of protecting and de-protecting agent for carbonyl group
- c) Give detail applications of NaBH_4 .
- d) Give detail applications of LiAlH_4 .

B. Explain mechanism and applications of Wolff-Kishner reduction.

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Q. 6)

Attempt any FOUR of the following

- a) Write note on Deprotonation with Butyllithium.
- b) Give the reactions of organo-cadmium compound with acid chloride and acid unhydrides.
- c) Explain the applications of organo lithium compounds
- d) Explain the applications of organo cobalt compounds.
- e) Explain reduction with Sodium in alcohol.