

SARDAR PATEL UNIVERSITY
M.Sc. INDUSTRIAL CHEMISTRY, FIRST SEMESTER EXAMINATION,
PS01CICH03, ORGANIC CHEMISTRY

Dt. 24-11-2011, Thursday

Time:10:30 am to 01:30 pm

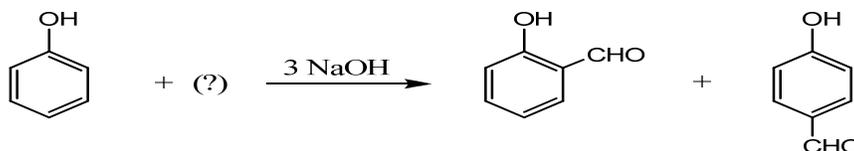
Total Marks:70

Q.1: Answer the following questions. (8)

1) In Pechmann reaction phenol is reacted with:

- (a) Maleic acid (b) Succinic acid (c) Malic acid (d) None of these

2)



- (a) CH₃Cl (b) CHCl₃ (c) CH₃OH (d) CH₃Br

3) Which type of phenol is used as starting material in Elbs persulfate oxidation?

- (a) Monohydric (b) Dihydric (c) Trihydric (d) None of these

4) Rate of Hofmann rearrangement decreases due to:

- (a) Nature of phenol (b) Electron withdrawing group
(c) Electron donating group (d) Steric factor

5) In Curtius rearrangement, which by-product is obtained?

- (a) CO₂ (b) H₂O (c) N₂ (d) None of these

6) Aluminium-t-butoxide is used in:

- (a) Baeyer-Villiger oxidation (b) Oppenauer oxidation
(c) Reduction (d) None of these

7) Perbenzoic acid is prepared by adding chloroform and sodium methoxide into solution of:

- (a) Bezoic acid (b) Dibenzoyl oxide
(c) Dibenzoyl peroxide (d) None of these

- 8) In Retro synthesis, what is the full form of FGI?
- (a) Functional group intraconversion (b) Functional group interconversion
(c) Functional group interaction (d) None of these

Q.2: Answer the following questions in brief. (Any Seven) (14)

- 1) What is Aldol condensation reaction? Write the general reaction of Aldol condensation.
- 2) Write the mechanism of Knoevenagel condensation reaction.
- 3) Write the applications of Meerwein Ponndorf reaction.
- 4) Write the mechanism of Reimer-Tiemann reaction.
- 5) Explain the two factors, which decide the amount of each isomer in Fries rearrangement.
- 6) Write the mechanism of Curtius rearrangement.
- 7) Define the following terms
(a) Synthetic equivalent (b) FGI
- 8) Write the preparations of BF_3 .
- 9) Write any two applications of Selenium.

Q.3 (A): Describe the Pechmann reaction in detail. (6)

Q.3 (B): Describe the Perkin reaction in detail. (6)

OR

Q.3 (B): Describe the Dakin reaction in detail. (6)

Q.4 (A): Describe the Pinacol rearrangement in detail. (6)

Q.4 (B): Describe the Benzidine rearrangement in detail. (6)

OR

Q.4 (B): Answer the following questions. (6)

- 1) Write the applications of Hofmann reaction.
- 2) What is Schmidt reaction? Give the mechanism of Schmidt reaction.

Q.5 (A): Describe the Diazo acetic ester in detail. (6)

Q.5 (B): Describe the Aluminium-t-butoxide in detail. (6)

OR

Q.5 (B): Describe the Ozone in detail. (6)

Q.6 (A): Carry out Retro synthetic analysis of following compounds. (6)

- 1) Ocfentanil
- 2) Ofornine

Q.6 (B): Carry out Retro synthetic analysis of following compounds. (6)

- 1) Fenfluramine
- 2) Cetaben ethyl ester

OR

Q.6 (B): Answer the following questions. (6)

- 1) Write the applications of BF_3 .
- 2) What is Arndt-Eistert reaction? Give the applications of Arndt-Eistert reaction.

Best of Luck