SARDAR PATEL UNIVERSITY

M.Sc. INDUSTRIAL CHEMISTRY, FIRST SEMESTER EXAMINATION,

PS01CICH03, ORGANIC CHEMISTRY

Dt. 02-05-2012, Wednesday

Time:11:00 am to 02:00 pm **Total Marks:70**

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

1) In Arndt Eistert reaction, acid is reacted with:

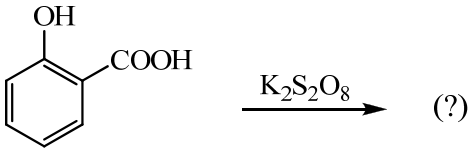
(a) $SOCl_2$ (b) CCl_4 (c) CH_2Cl_2 (d) CH_3Cl

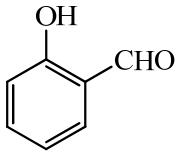
2) Which is the potent dienophile in case of Diels-alder reaction?

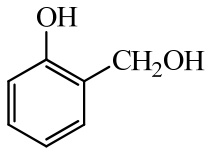
(a) Malic acid (b) Succinic acid

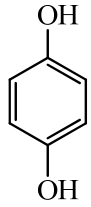
(c) Maleic anhydride (d) None of these

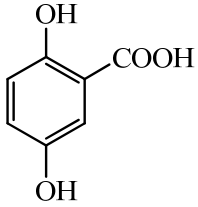
3)



(a) 

(b) 

(c) 

(d) 

4) Rate of Hofmann rearrangement increases due to:

(a) Electron withdrawing group (b) Nature of compound

(c) Electron donating group (d) Steric factor

5) In Pinacol rearrangement, the migration aptitude of phenyl group depends on:

(a) Temperature (b) Ability of releasing electrons

(c) Reactivity of compound (d) None of these

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

(a) Di benzoyl peroxide (b) Benzoic acid

(c) Di benzoyl oxide (d) None of these

7) In Retro synthesis, what is the full form of FGI?

(a) Functional group interaction (b) Functional group intra conversion

(c) Functional group initial conversion (d) Functional group inter conversion

8) BF_3 is found to be used as catalyst in:

(a) Paint (b) Varnish (c) Polymerization of oil (d) None of these

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

1) Write the mechanism of darzen condensation.

2) Hofmann rearrangement is intra molecular. Explain it with suitable example.

3) Write the applications of Knoevenagel condensation reaction.

4) Write the mechanism of Benzidine rearrangement.

5) Write the mechanism of Leuckart's reaction.

6) What are the advantages of BF_3 over $AlCl_3$?

7) Write the preparations of Dicyclohexyl carbodiimide.

8) Write the preparations of Platinum and Palladium.

9) Define the following terms:

(a) Retro synthesis (b) Synthon.

Q.3 (A): Describe the Aldol condensation reaction in detail. **(6)**

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

OR

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

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

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

OR

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

Q.5 (A): Explain the Ozone in detail. **(6)**

Q.5 (B): Answer the following questions. **(6)**

1) Write the applications of Dicyclohexyl carbodiimide.
2) Write the any two applications of Per benzoic acid in detail.

OR

Q.5 (B): Explain the Periodic acid in detail. **(6)**

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

1) Ofornine 2) Ocfentanil

Q.6 (B): Write the Guidelines, which are used in Retro synthesis. Explain any two with examples. **(6)**

OR

Q.6 (B): Explain the Merwein Pondort reaction in detail. **(6)**

Best of Luck