Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–IV EXAMINATION – SUMMER 2016

Subject Code:143501 **Date:30/05/2016**

Subject Name:Organic Chemistry for Technologists-II

Time:10:30 AM to 01:00 PM **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1 **(a)** Explain Benzidine rearrangement with mechanism. **07**

(b) How does aniline react with; **07**

a. Acetic anhydride
b. Br_2 water
c. Benzaldehyde
d. Conc. H_2SO_4 / 180°C
e. Acetyl chloride
f. HNO_2 at 0° to 5°C
g. $CHCl_3$/KOH

Q.2 **(a)** How is furan synthesized? Describe its important reaction. **07**

(b) Explain why, **07**

a. Phenol is more acidic than ethyl alcohol?
b. p-Nitrophenol is a stronger acid than phenol?
c. o-Nitrophenol is steam volatile whereas p-Nitrophenol is not?

OR

(b) Explain why, **07**

a. Pyridine is more basic than pyrolle.
b. Pyridine is less basic than aliphatic amine.
c. Pyridine is more basic than aniline.

Q.3 **(a)** Explain why, **07**

a. Methyl group ($-CH_3$) acts as ortho-para director.
b. b. Nitro group ($-NO_2$) acts as meta director

(b) How will you synthesize ; **07**

a. DDT from Chlorobenzene
b. Saccharin from Toluene

OR

Q.3 **(a)** Give conversion: **07**

a. Aniline →Sulfanilamide
b. Toluene →Chloramine-T

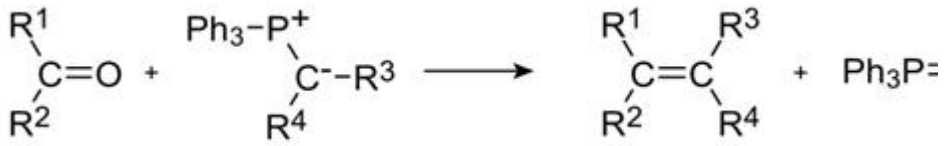
(b) Write a note on: Pinacol-Pinacolone rearrangement with mechanism. **07**

Q.4 **(a)** Write a note on: Favoriskii rearrangement **07**

(b) Describe the rules of Aeromaticity and also explain why thiophene is aromatic in nature **07**

OR

Q.4 **(a)** Name the following reaction and Explain its mechanism & application in detail. **07**



(b) Write a note on: Baeyer-Villiger oxidation reaction with mechanism. **07**

Q.5 **(a)** How is Pyrrole synthesized? What happens when pyrrole treated with the following reagents: **07**

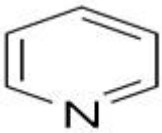
a. Nitric acid in acetic anhydride at -100C.
b. Sulfur trioxide in pyridine.
c. Benzenediazonium chloride.
d. Bromine in alcohol.

(b) Write a note on: Reduction of Nitro aromatic compound. **07**

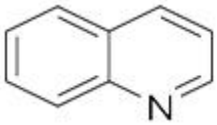
OR

Q.5 **(a)** 1.Give IUPAC name for following compounds; **02**

a.



b.



2.State whether the following compound are Aromatic or Non-Aromatic; **02**

a.

b.

3. Write a note on Annulene with example. **03**

(b) Why is benzene an arene and not alkene or alkane? Explain the mechanism of sulphonation reaction of benzene. **07**

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