Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER– IV EXAMINATION – SUMMER 2015

Subject Code: 143501 **Date: 28/05/2015**

Subject Name: Organic Chemistry for Technologist -II

Time: 10.30am-01.00pm **Total Marks: 70**

Instructions:

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

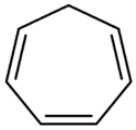
Q.1 **(a)** Explain Hydroboration-Oxidation reaction with mechanism in detail. **07**

(b) 1. Explain why the methyl group ($-CH_3$) acts as ortho-para director. **04**

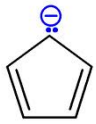
2. Write a note on: Opposite behavior of halogen group **03**

Q.2 **(a)** 1. State whether the following compounds are aromatic or non-aromatic. Give reason also. **02**

a.

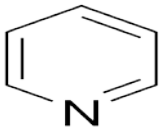


b.

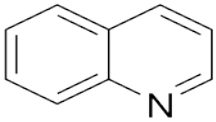


2. Give IUPAC name for following compounds; **02**

a.



b.



3.Write a not on: Annulene **03**

(b) 1. Define: Sigmatropic reaction, Pericyclic reaction & Concerted reaction. **03**

2. How will you convert Nitrobenzene into 4, 4'-Benzidine? **04**

OR

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

1. Saccharin from toluene.
2. Chloramine-T from toluene.

Q.3 **(a)** How is Pyrrole synthesized? Describe its important reaction. **07**

(b) Explain why, **07**

1. Pyridine is more basic than pyrolle.
2. Pyridine is less basic than aliphatic amine.
3. Pyridine is more basic than aniline.

OR

Q.3 **(a)** 1. Explain why pyridine does not undergo Friedel – Craft reactions. **02**

2. How will you synthesize 2-methylquinoline from aniline? **05**

(b) 1. How will you distinguish between aniline and benzylamine? **03**

2. How will you distinguish between aniline and N-methylaniline? **04**

Q.4 **(a)** Explain the reaction between Propene and HBr with mechanism. **07**

(b) 1. What happens when, **03**

a. Aniline is treated with nitrous acid at 0-5^{0}C.

b. Phenol is heated with CCl_4 in the presence of NaOH Solution and then with dilute HCl?

2. Explain why p-nitrophenol is a stronger acid than Phenol? **02**

3. How will you synthesized Sulfanilamide from Aniline? **02**

OR

Q.4 **(a)** How does aniline react with; **07**

1. $(CH_3CO)_2O$ 2. Br_2 water 3. CH_3CHO

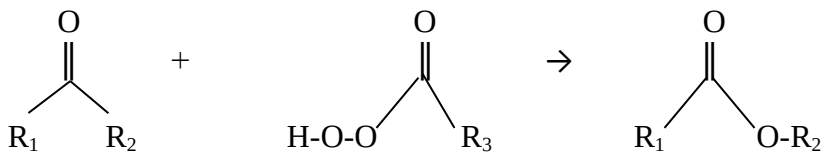
4. CH_3COCl 5.$CHCl_3$ and alc.KOH

6. Benzene sulfonyl chloride 7. Benzenediazoniumchoride

(b) What products are obtained by reduction of nitrobenzene under different conditions? **07**

Q.5 **(a)** Who were the pioneers of Alkylation & Acylation reaction? Explain its mechanism. **07**

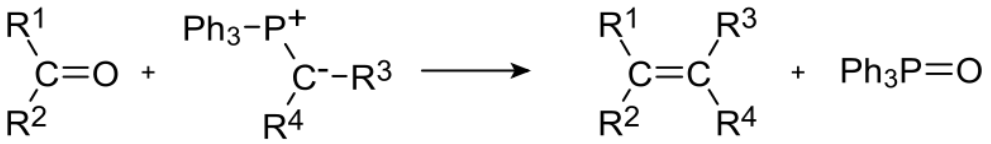
(b) Name the following reaction and Explain its mechanism & application in detail. **07**



per acid where, R_3= -C_6H_5

OR

Q.5 **(a)** Name the following reaction and Explain its mechanism & application in detail. **07**



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

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