Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER– IV EXAMINATION – WINTER • 2014

Subject Code: 143501 **Date: 22-12-2014**

Subject Name: Organic Chemistry for Technologist - II

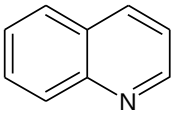
Time: 02:30 pm - 05:00 pm **Total Marks: 70**

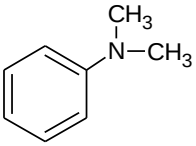
Instructions:

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

Q.1 **(a)** 1. Give IUPAC names of the following compounds **04**

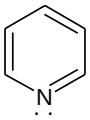
(i)

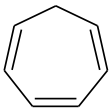
(ii) 

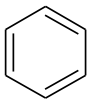
(iii) 

(iv) $CHCl_3$

2. State whether the following compounds are aromatic or non-aromatic **03**

(i) 

(ii) 

(iii) 

(b) Write Skraup synthesis. Give the uses of Furfural. **07**

Q.2 **(a)** Explain Pinacol-Pinacolone rearrangement with mechanism. **07**

(b) Give preparation and applications of (i) Thiophene (ii) Pyrrole **07**

OR

(b) Give preparation and applications of (i) Quinoline (ii) Furan **07**

Q.3 **(a)** Write a note on: Favoriskii rearrangement. **07**

(b) Write a note on: **07**

1. Directive influence of Amino group.2. Directive effect of Methyl (-CH3) group.

OR

Q.3 **(a)** Explain the elucidation of structure of benzene. **07**

(b) Explain why, **07**

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

Q.4 **(a)** Explain SN2 mechanism in detail with suitable examples. **07**

(b) Explain (i) Concerted reaction (ii) Carbanion (iii) NGP (iv) Pericyclic reaction **07**

OR

Q.4 **(a)** Why is benzene an arene and not alkene or alkane? Explain the mechanism of sulphonation reaction of benzene. **07**

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

Q.5 **(a)** What is the difference between an alcohol and phenol? Explain the resonance observed in phenols. Explain Kolbe reaction. **07**

(b) How does aniline react with (i) Acetic anhydride (ii) Br_2 water (iii) Benzaldehyde (iv) Conc. H_2SO_4 / 180°C (v) Acetyl chloride (vi) HNO_2 at 0 to 5°C (vii) $CHCl_3$/KOH **07**

OR

Q.5 **(a)** How will you synthesize **07**

1. Sulfanilamide from aniline. 2. Chloramine-T from toluene.

(b) Explain Markonikov and Antimarkonikov rule? Write Benzidine rearrangement. **07**

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