Enrollment No. _____

Shree Manibhai Virani and Smt. Navalben Virani Science College (Autonomous), Rajkot

Affiliated to Saurashtra University, Rajkot

SEMESTER END EXAMINATION APRIL - 2018

M.Sc. Chemistry (Organic Chemistry) / M.Sc. Pharmaceutical Organic Chemistry

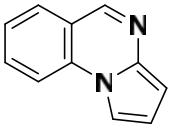
16PCEOC07 / 16PCHCC16 – HETEROCYCLIC CHEMISTRY

Duration of Exam – 3 hrs ***Semester* – IV** ***Max. Marks – 70***

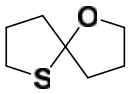
***Part A** (5x2= 10 marks)*

Answer **ALL** questions

1. Give IUPAC nomenclature of the following compounds



(a)

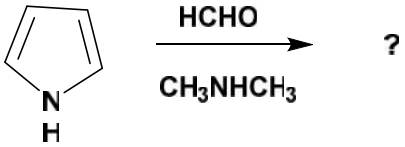


(b)

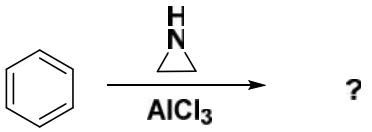
2. Why Pyridine is more basic then pyrrole?

3. Complete the following chemical reactions:

(a)

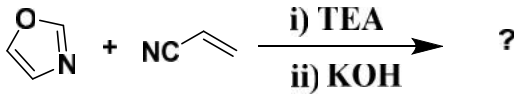


(b)

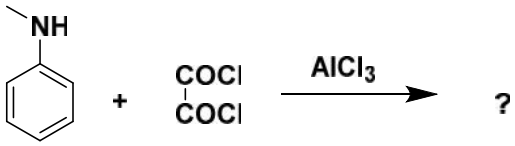


4. Complete the following chemical reaction:

(a)



(b)



5. Why Pyridine is less basic then analogous aliphatic amines?

***Part B** (5x5 = 25 marks)*

Answer **ALL** questions

6a. Explain the IUPAC nomenclature system of spiro heterocyclic compounds.

OR

6b. Discuss the chemical reactivity and two synthesis of Oxirane.

7a. Give any three synthesis of Furan.

OR

7b. Discuss chemical reactions of Thiophene.

8a. Discuss any three synthesis of Phthalazine.

OR

8b. Why Pyridine is more basic then Pyrrole?

9a. Discuss the electrophilic reactions and two synthesis of Isoquinoline.

OR

9b. Discuss any three synthesis of Benzopyran-4-one.

10a. Explain Nucleophilic reactions and Two synthesis of Thiazole.

OR

10b. Give two synthesis of Thiadiazole.

***Part C* (5x7 = 35 marks)**

Answer **ALL** questions

11a. Explain the properties and Three synthesis of Azetidine.

OR

11b. Give two synthesis of followings:

i) 1,2-Dioxetane
ii) 1,2-Diazetidine

12a. Describe physical properties and Three preparation of Benzofuran.

OR

12b. Discuss two synthesis of followings:

i) Indole
ii) Pyrrole

13a. Explain electrophilic reactions and two synthesis of Pyridine.

OR

13b. Write any two synthesis of followings:

i) Pyrimidine
ii) Thiazine.

14a. Describe chemical reactivity and Three preparation of Quinoline.

OR

14b. Write any two synthesis of followings:

i) Benzopyran-2-one
ii) Acridine.

15a. Describe Chemical properties and Two preparation of Pyrazole.

OR

15b. Give two synthesis of followings:

i) Imidazole
ii) Pyrazole