Enroll No.

Shree Manibhai Virani and Smt. Navalben Virani Science College (Autonomous) Affiliated to Saurashtra University, Rajkot

SEMESTER END EXAMINATION NOVEMBER – 2016

M.Sc. Chemistry

16PCECC02 - ORGANIC CHEMISTRY

Duration of Exam – 3 hrs

Semester – I

Max. Marks – 70

<u>Part A</u> (5x2= 10 marks)

Answer ALL questions

- 1. Define the following terms with examples (i) Electrophile (ii) Nucleophile.
- 2. Which one of the following compounds is not aromatic? Justify your answer.



- A B C D
 3. Write any one preparation of enol ether.
- 4. Define the term conjugation and delocalization.
- 5. Write the structure of AIBN. What is the role of AIBN in radical reaction?

<u>Part B</u> (5X5 = 25 marks)

Answer ALL questions

6a. Explain effect of delocalization and conjugation on acidity.

OR

- 6b. Discuss the conjugation system in butadiene.
- 7a. What are the criteria of aromaticity? Explain the huckel's rule?

OR

- 7b. Discuss the factor affecting the stability of radical.
- 8a. Explain formation, stability and reactivity of carbanion.

OR

- 8b. Write a note on ylide.
- 9a Discuss reactions of silyl enol ethers with halogen.

OR

9b Why benzene is less reactive than phenol towards electrophile?

10a What is the product of given reaction? Explain with mechanism.

OR

10b How radicals conjugate with electron withdrawing and electron donating groups?

<u>Part C</u> (5X7 = 35 marks)

Answer <u>ALL</u> questions

11a. Explain formation and stability of Carbene and Nitrene.

OR

11b. Explain formation, stability, and reactivity of carbocation.

12a. What is enolization ? Describe acid and base catalyzed enolization.

OR

- 12b. Explain base catalyzed halogenation of enols.
- 13a. Discuss in detail radical chain reaction.

OR

- 13b. Give various methods for the formation of radicals.
- 14a Why all the bonds are not same in hexatriene?

OR

- 14b Describe allyl cation and allyl anion system.
- 15a Describe the electrophilic attack on benzene and cyclohexene.
- OR
- 15b Why one carbon electrophiles are difficult to use? Explain in details.