* K C - 6 2 9 1 *

KC-6291

B. E. II (Sem. III) (T.P.) Examination

November/December – 2012

Organic Chemistry

(Old Syllabus)

Time : **3** Hours] [Total Marks : **100**

Instructions :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ **B. E. II (Sem. III) (T.P.)**

Name of the Subject :

☛ **Organic Chemistry (Old)**

☛ Subject Code No. : **6 2 9 1** ☛ Section No. (1, 2,.....) : **Nil**

Seat No. :

Student's Signature

(2) Give reactions and neat diagrams wherever necessary.
(3) Question 1 and 4 are compulsory and carries 20 marks each.
(4) Question 2, 3 and 5, 6 are of 15 marks each.

1 (a) Short answer question : **10**
- (i) Define molecular orbital.
- (ii) Give the electronic configuration of Al (Aluminium), F (Fluorine)
- (iii) Explain Protic Solvent.
- (iv) Differentiate Alcohols.
- (v) Explain Homolytic and Heterolytic fission.

(b) What is unshared pair of Electrons ? Explain with examples showing the deformation in shape and angle of molecules. **5**

(c) Write two general preparation, properties and uses of Aldehyde. **5**

2 Answer any three : **15**
- (i) Describe the importance of Unshared pair of Electrons and explain it's importance in determining the structure.
- (ii) Explain the optical activity in Lactic acid.
- (iii) Write preparation, properties and uses of Quinoline.
- (iv) Write preparation, properties and uses of Nitrile.
- (v) Explain different types of reactive intermediates.

3 Answer any three : **15**

(i) Explain the principle of Chromatography and explain Paper Chromatography.

(ii) Define Quantum number and the formation of it through it with the help of energy equation.

(iii) Write the preparation, properties and uses of Carboxylic Acids.

(iv) Write in detail about Esters.

(v) Explain Nucleophillic Substitution and Electrophillic addition reactions.

4 (a) Short Answer Questions : **10**

(i) Define Meso compounds.

(ii) Define Keto Enol Tautomerism.

(iii) How the presence of N, S and Halogen can be proved in organic compound identification.

(iv) Define Assymetric Carbon atom.

(v) Specific rotation can be explained as.

(b) Explain the process of separation of Acids, Alcohols, Phenols and Basic compounds. **5**

(c) Write two general properties, preparation and uses of Phenols. **5**

5 Answer any three : **15**

(i) Write preparation, properties and uses of Aliphatic halides.

(ii) Explain different types of Organic reactions.

(iii) Write preparation, properties and uses of Furan.

(iv) Write preparation, properties and uses of Pyridine.

(v) Explain Rearrangement and Tautomerism form of structural isomerism in detail with two examples.

6 Answer the following :

(i) Write the preparation and uses of Naphthalene and Anthracene in detail. **9**

(ii) Explain Geometrical Isomerism. **6**

OR

(ii) Explain : **6**

(a) Sublimation

(b) Steam Distillation.
