* U H - 8 1 3 9 *

UH-8139

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

May\June – 2012

Organic Chemistry

(New Course)

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 (New Course)**

☛Subject Code No. : **8 1 3 9** ☛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 questions : **10**

(i) Define Hund's Principle.

(ii) Explain the utility of Aprotic Solvent.

(iii) Define Bond length & Bond Energy.

(iv) Difference between Esters and Ethers.

(v) Define Reaction mechanism.

(b) Explain different types of Quantum No. **5**

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

2 Answer any **three** : **15**

(i) Describe Ionic and Co-ordinate Covalent bond.

(ii) Explain s-s, s-p and p-p overlappings.

(iii) Explain Solubility.

(iv) Write preparation, properties and uses of Cyano compounds.

(v) Explain Nucleophiles and Electrophiles.

3 Answer any **three** : **15**

(i) Explain the importance of Inductive effect with special reference to electro negativity of electron withdrawing groups.

(ii) Distinguish between Alcohols and Phenols.

(iii) Explain Nucleophillic addition and Eletrophilic substitution reactions.

(iv) Write in detail about Aromatic Halides.

(v) Write the preparation, properties and uses of Nitrile compounds.

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

(i) Define Assymetric Carbon atom.

(ii) Explain the Ignition test of Organic spotting.

(iii) Distinguish Polynuclear and Heterocyclic compounds.

(iv) Aromaticity of any compounds is due to ?

(v) Optical isomerism of any compound is responsible due to ?

(b) Furan and Pyrrole are aromatic in nature ? Discuss. **5**

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

5 Answer any **three** : **15**

(i) Write preparation properties and uses of Alcohols.

(ii) Explain Nuclear and Functional isomerism in detail with two examples.

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

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

(v) Distinguish Stereo and Structural isomerism.

6 Answer the following :

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

(ii) Explain Nucleophlic and Electrophilic Substitution reaction. **6**

OR

(ii) Explain : (a) Vacuum distillation (b) Crystallisation. **6**