KNT/KW/16/6553

B. Pharm. Semester—III (C.B.S.) Examination

PHARMACEUTICAL CHEMISTRY–III (Organic)

Paper–2

Time : Three Hours] [Full Marks : 80

N.B. :— (1) Question No. **1** is compulsory.
(2) Solve any **FOUR** questions from the remaining.
(3) Discuss the reaction, mechanism wherever necessary.

1. Solve any **FIVE** of the following :
   (a) Explain Huckel's rule with suitable examples.
   (b) Aldehydes are much more reactive than ketone. Explain.
   (c) How will you determine unsaturation of given unknown organic compound.
   (d) SN^1 reaction accompanied by rearrangement, justify.
   (e) Compare basicity of amines.
   (f) Write a note on peroxide effect.
   (g) State and explain any two reactions of carboxylic acids. 5×4=20
2. (a) Discuss Aldol condensation with suitable examples. 5
   (b) Explain in detail, reactions of Phenol. 10
3. (a) Chlorination of isobutane yields 64% isobutyl chloride and 36% tert. butyl chloride. Explain. 5
   (b) Discuss in detail bimolecular nucleophilic aliphatic substitution reaction. 10
4. Write about methods of preparation of alkene. Give detailed account of E_2 reaction covering mechanism, evidences, orientation and stereochemistry. 15
5. (a) Outline the laboratory synthesis of following from benzene (Any **TWO**) :
      (i) m-nitrobenzophenone.
      (ii) m-bromophenol.
      (iii) p-aminobenzoic acid.
      (iv) p-iodonitrobenzene. 8
   (b) Enlist various electrophilic aromatic substitution reactions of benzene. Explain the mechanism of nitration reaction of benzene. 7
6. (a) How will you differentiate 1^o, 2^o and 3^o amines ? 5
   (b) Write a concise account on orientation and reactivity of aromatic compounds. 10
7. Write notes on (any **THREE**) :
   (a) Keto-enol tautomerism.
   (b) Grignard reagent and its significance.
   (c) Acidity of carboxylic acids.
   (d) Diazonium salt and its importance.
   (e) Hoffmann degradation reaction of amide. 15