NRJ/KW/17/4268

B.Pharm. Third Semester (CBS) Examination

PHARMACEUTICAL CHEMISTRY–III (Organic)

Paper—2

Time : Three Hours] [Maximum Marks : 80

N.B. :— (1) Question No. **1** is compulsory.
(2) Attempt any four questions out of remaining.
(3) Discuss the reaction, mechanism wherever necessary.

1. Solve any **five** of the following :
   (a) Benzene gives substitution reaction rather than addition. Justify.
   (b) Write about keto-enol tautomerism.
   (c) How will you differentiate 1°, 2° and 3° amines ?
   (d) Carboxylic acids are stronger acids than phenols, explain.
   (e) Explain Satzeff's and Markonikov's rule with suitable example.
   (f) Why Carbonyl compounds gives nucleophilic addition reactions ?
   (g) Addition of HBr to propene in the presence of peroxide yields n-propyl bromide, Explain. 4×5=20
2. Give a detailed account of electrophilic aromatic substitution reaction including mechanism, reactivity and orientation. 15
3. Depict and discuss the mechanism of following reactions (any three) :
   (a) 2 moles of Acetaldehyde + sod.hydroxide → ?
   (b) Propane + Chlorine + UV light → ?
   (c) Benzene + Nitric acid + Sulfuric acid → ?
   (d) Phenol + Chloroform + Aq. NaoH → ?
   (e) Isobutylene + Isobutane + Conc. H_2SO_4 → ? 5×3=15
4. What are Aliphatic nucleophilic substitution reactions ? Discuss in detail SN^1 and SN^2 reactions. 15
5. How will you plan for the following synthesis, starting from benzene (any **three**) ?
   (a) Phenyl acetic acid
   (b) 1–phenyl–azo–2–naphthol
   (c) 3–bromo–4–amino toluene
   (d) M–nitrobenzophenone
   (e) Salicylaldehyde 5×3=15
6. (A) What are organomettalic compounds ? Discuss in detail about their preparation and synthetic applications. 10
   (B) Enlist the various methods of preparation of aldehydes and ketones. 5
7. Write short notes on any **three** of the following :
   (a) Functional derivatives of carboxylic acids
   (b) Benzyl radical and its stability
   (c) Hoffman degradation of amides
   (d) E_2 reaction
   (e) Aromaticity. 5×3=15