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PY 132305

Roll No. of candidate

2016

B. Pharm 3rd Semester End-Term Examination

PHARMACEUTICAL CHEMISTRY-III

Full Marks – 100 Pass Marks – 35 Time – Three hours

The figures in the margin indicate full marks for the questions.

1. Justify the following comments (any *five*) : 3×5=15

   (a) Benzene undergoes electrophilic substitution reaction rather than electrophilic addition reaction.

   (b) Halogenation of alkene is stereospecific reaction.

   (c) Naphthalene is aromatic compound.

   (d) Amines are basic in nature.

[Turn over

(e) Carboxylic acids are more acidic than alcohols.

(f) Methylamine is more basic than ammonia.

2. Answer the following questions (any *five*) : 3×5=15

(a) Give the general mechanism of nucleophilic addition reaction of carbonyl compounds.

(b) How will you distinguish between primary, secondary and tertiary amines ?

(c) How will you distinguish between 2-pentanone and 3-pentanone ?

(d) Explain the effect of substituents on acidity of carboxylic acid.

(e) Explain Hell-Volhard-Zelinsky reaction.

(f) Describe Fischer Esterification method.

3. Answer the following questions (any *eight*) : 5×8=40

(a) Write the reaction and reaction mechanism of Friedal-craft alkylation.

(b) What happens when ethyl acetate reflux with aqueous solution of NaOH ? Explain the mechanism.

(c) How will you distinguish between benzene and cyclohexene ?

(d) Why nitrophenol is more acidic than phenol ?

(e) How will you compare phenol with ethyl alcohol ?

(f) Explain Aldol condensation.

(g) What happens when phenyl react with Benzoyl chloride in the presence of sodium hydroxide ?

(h) Explain nucleophilic and electrophilic addition reaction of $\alpha-\beta$ unsaturated carbonyl compounds.

(i) Discuss the isomerism of aldehyde and ketone.

4. Answer any *three* from the following : $3\times10=30$

(a) Write a note on organic reagents used in different synthesis. 10

(b) Explain neighbouring group effect in intranucleophilic attack. Describe syn and anti-addition with example. 5+5=10

(c) Write the mechanism of following reaction : 4+3+3=10

(i) Hoffmann amide degradation

(ii) Cannizzaro reaction

(iii) Clemensen reduction

(d) Compare nucleophilic aromatic substitution with nucleophilic aliphatic substitution with suitable example. 10