

BP. 3rd Sem (ASTU) — 08/12/15

Total No. of printed pages = 4

PY 132305

Roll No. of candidate

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2015

B. Pharm 3rd Semester End-Term Examination

PHARMA CHEMISTRY III

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

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

1. Answer any *nine* questions from the following :

Give reasons : $2 \times 9 = 18$

- Fluorine can not be used in the preparation of vicinal difluoride from alkene.
- Phenols are more acidic than alcohols.
- Benzaldehyde does not respond for Aldol condensation.
- α -hydrogen of a carbonyl compound is acidic in nature.
- Benzene responds for substitution rather than addition reaction.

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(f) Tert-alkyl halides react by SN_1 mechanism.

(g) Propene on reaction with HBr gives isopropyl bromide as major product.

(h) Halogens are deactivating but ortho/para directing.

(i) Inversion of configuration occurs in SN_2 mechanism.

(j) Amines are basic in nature.

(k) Benzene has a planar structure.

2. Answer any *four* from the following :

3×4=12

(a) Discuss intermolecular oxidation-reduction with example.

(b) Discuss the competitive basicity of ammonia, 1° amine, 2° amine and 3° amine.

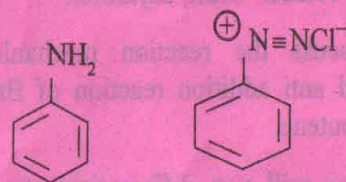
(c) Write the preparation of ethyl benzene by Clemmensen reduction.

(d) Write the reaction of methyl lithium with water.

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(e) Complete the reaction (write the reagents and reaction conditions).



(f) Discuss the structure of carboxylic acid.

3. Answer any *five* from the following : 4×5=20

(a) Write the reaction involved in the preparation of aldehyde by using Grignard reagent.

(b) Discuss the effect of electron donating and electron withdrawing ring substituent in the basicity of aromatic amine.

(c) Write the reaction of diazomethane with acetic acid and mineral acid.

(d) Write the reaction mechanism of Diels-Alder reaction.

(e) Discuss how benzene is resonance stabilised.

(f) Write an example of synthetic utility of aluminium tert-butoxide.

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4. Answer any *four* from the following : $5 \times 4 = 20$

- (a) Write the reaction and reaction mechanism of Friedel Craft acylation.
- (b) Discuss the reaction mechanism of syn and anti addition reaction of Bromine with 2-butene.
- (c) How will you differentiate stereo selective and stereo specific reactions.
- (d) Write Howorth synthesis of Phenanthrene. Write the sulphonation reaction of Phenanthrene.
- (e) Write any two methods for the preparation of phenols.

5. Answer any *three* questions : $10 \times 3 = 30$

- (a) Discuss the orientation of aromatic substitution in chloro benzene.
- (b) Discuss nucleophilic substitution (SN) reaction. Classify and differentiate SN reactions.
- (c) Discuss the Kekule structure of benzene considering aromatic character, resonance, bond length, heat of hydrogenation.
- (d) Write the preparation of Grignard reagent with reaction. Write the reaction of Grignard reagent with ethyl acetate.

