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CM—10—2019

FACULTY OF PHARMACEUTICAL SCIENCES AND TECHNOLOGY

Pharm D (First Year) EXAMINATION

NOVEMBER/DECEMBER, 2019

PHARMACEUTICAL ORGANIC CHEMISTRY (POC)

(Wednesday, 4-12-2019)

Time : 10.00 a.m. to 1.00 p.m.

Time— Three Hours

Maximum Marks—70

N.B. :— (i) All questions are compulsory.

(ii) Figures to the right indicate full marks.

(iii) Draw chemical structures and reactions wherever necessary.

1. Solve any *five* of the following : 5×2=10

(a) What is ionic and non-ionic solutes ?

(b) Define the following :

(i) Nucleophiles

(ii) Solubility.

(c) Write down assay of Aspirin.

(d) What is Wittig reaction ?

(e) What is meant by activating and deactivating groups ?

(f) Write down any *two* examples of dehydration of alcohols.

(g) What are cyclo-addition reactions ?

2. Solve any *two* of the following : 2×6=12

(a) Explain Bayer strain theory.

(b) Explain S_N1 reaction mechanism, kinetics and stereochemistry.

(c) Explain aldol condensation with mechanism.

P.T.O.

3. Solve any *two* of the following : 2×6=12

(a) Explain the following terms :

(i) Oxidation-Reduction reactions

(ii) Lewis acid-base theory

(b) Explain Fries rearrangement with mechanism.

(c) What are free radicals ? Write down free radical chain reactions of alkane.

4. Solve any *two* of the following : 2×6=12

(a) Explain E_2 reactions with kinetics, mechanism and any *two* evidences.

(b) Explain Markownikoff rule and Peroxide effect with suitable examples.

(c) Conversion of acid to acid chloride, ester, amide and anhydride with any example.

5. Solve any *two* of the following : 2×6=12

(a) Explain mechanism of sulphonation and nitration of benzene.

(b) Write the reaction procedure and uses of urea and lactic acid.

(c) Discuss the following reactions :

(i) Hoffman rearrangement

(ii) Cannizzaro reactions.

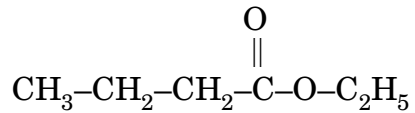
6. Solve any *two* of the following : 2×6=12

(a) What are isomers ? Write down classification of isomers with suitable examples.

(b) Why is phenol more acidic than alcohol ? Write basicity of amines.

(c) Write down IUPAC names of the following compounds :

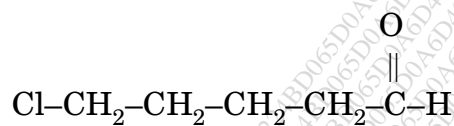
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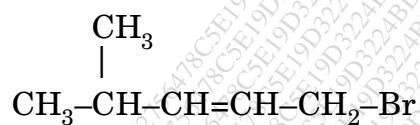
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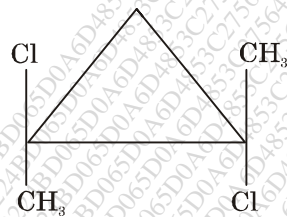
(iii)



(iv)



(v)



(vi)

