F.Y.B.PHARM. SEMESTER-I (CBCS - 2015 Course) : SUMMER - 2019

SUBJECT : PHARMACEUTICAL CHEMISTRY – II (ORGANIC)

Day : Thursday
Date : 25/04/2019

Time : 10.00 A.M. TO 01.00 P.M.
Max. Marks : 60

S-2019-4371

N.B.:

1) **Q. No.1** and **Q.No.5** are **COMPULSORY**. Out of the remaining questions attempt **ANY TWO** questions from each section.
2) Answers to both the sections should be written in **SEPARATE** answer books.
3) Figures to the right indicate **FULL** marks.

SECTION – I

Q.1 Answer **any FIVE** of the following. **(10)**

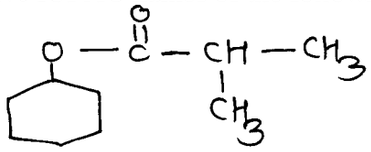
a. Define Ionization Potential.
b. What are Vander waals forces of attraction?
c. Explain: Cyclopropane is very unstable and very difficult to synthesize.
d. Give different shapes of Atomic orbitals.
e. Give a reaction involving S_Ni mechanism.
f. Explain: *N,N*-dimethyl-*o*-toluidine is more basic than aniline.
g. What is Steric acceleration? Explain with suitable example.

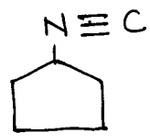
Q.2 Differentiate between S_N1 and S_N2 reactions. **(10)**

Q.3 **a.** Explain: The alkyl groups attached to benzene ring have +I effect in the following order. **(05)**

$-CH_3 > CH_3CH_2- > (CH_3)_2CH- > (CH_3)_3C-$

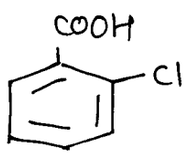
b. Give IUPAC names of the following compounds. **(any FIVE)** **(05)**

(i) 

(ii) 

(iii) $CH_3(CH_2)_3CHO$

(iv) $CH_3-CH_2-NO_2$

(v) 

(vi) $H-C\equiv C-CH_2-CH_3$

Q.4 Write short notes on **(any TWO)** **(10)**

a. Inductive effect
b. Solubility
c. Factors affecting bond energy
d. Resonance

P.T.O.

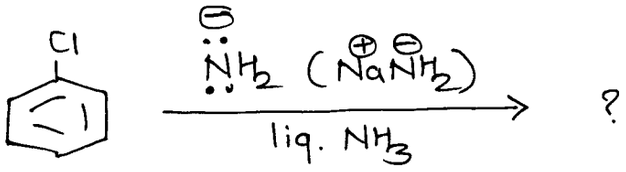
SECTION – II

Q.5 Answer **any FIVE** of the following. **(10)**

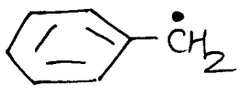
a. Enlist different Sulphonating reagents.
b. Define Optical Isomerism. Give one example.
c. Differentiate following reagents into Electrophiles and Nucleophiles.

$Cl^{\oplus}$, $^{\oplus}CH_2CH_3$, $^{\ominus}NH_2$, $H^{\ominus}$

d. Predict the product.



e. Give resonance of following Carbon radical.



f. What is Disproportionation Reaction?
g. How benzynes can be obtained from *o*-dihalobenzene?

Q.6 Define Reaction Intermediates. Give method of preparation and reactions of Carbocations, Nitrenes and σ-complexes. **(10)**

Q.7 **a.** What is Geometric Isomerism? **(05)**

b. Explain Nitration reactions with examples. **(05)**

Q.8 Write short notes on **(any TWO)** **(10)**

a. Collision theory
b. Carbanions
c. Metamerism
d. Friedel Craft reactions

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