BRAINWARE UNIVERSITY

Term End Examination 2023
Programme – B.Pharm-2019/B.Pharm-2020/B.Pharm-2021
Course Name – Pharmaceutical Organic Chemistry III
Course Code - BP401T
(Semester IV)

Full Marks : 75 **Time : 3:0 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question) 1 x 20=20

1. *Choose the correct alternative from the following :*

(i) Identify what is the correct order of reactivity (most reactive first) of pyrrole, furan and thiophene towards electrophiles

a) thiophene>pyrrole> furan
b) furan >pyrrole>thiophene
c) pyrrole> furan >thiophene
d) furan >thiophene>pyrrole

(ii) Recognise the compounds will be optically active

a) Propanoic acid
b) 3- chloropropanoic acid
c) 2- chloropropanoic acid
d) 3-chloropropene

(iii) The conversion of ketoximes to N-substituted amides by heating with some acidic reagents is Reaction name as_____

a) Dakin reaction
b) Clemmensen reduction
c) Beckmann Rearrangement
d) Brich Reduction

(iv) Write the isomers of the substance must have

a) same chemical properties
b) same molecular weight
c) same structural formula
d) same functional group

(v) Classify the Alkenes represent geometrical isomerism due to

a) Asymmetry
b) Rotation around a single bond
c) Resonance
d) restricted Rotation around a double bond

(vi) Which one is \"not produce \" by follwing Schmidt reaction_____

a) Primary amine
b) Lactones
c) α- Amino acids
d) O-Cresol

(vii) Chalcones is produced by_____

a) Claisen-Schmidt Condensation
b) Brich Reduction
c) Clemmensen reduction
d) Wolf-kishner Reduction

(viii) If position of functional group varies in each of its show isomer then its is

a) position isomerism
b) functional group isomerism
c) chain isomerism
d) all of them

(ix) Only two isomers of monochloro product is possible of show

a) n-butane
b) 2,4-dimethyl pentane
c) Benzene
d) 1-methyl propane

(x) ChooseThe isomer of diethyl ether is

a) (CH3)2CHOH
b) (CH3)3C–OH
c) C3H7OH
d) (C2H5)2CHOH

(xi) Choose the Number of isomers of molecular formula C2H2Br2 are

a) 1
b) 2
c) 3
d) 0

(xii) Examine Which one of the following is an optically active compound

a) n-propanol
b) 2-chlorobutane
c) n-butanol
d) 4-hydroxyheptane

(xiii) Report Which of the following is a not a five membered ring?

a) Pyridine
b) Pyrrole
c) Furan
d) Thiophene

(xiv) Pyridine act with LiAlH4 to produce_____

a) 1,2-dihydropyridine
b) 2,4-dihydropyridine
c) 1,4-dihydropyridine
d) None of this

(xv) Identify the correct option:Isomerism that arises out of the difference in spatial arrangement of atoms or groups about the doubly bonded carbon atoms are called

a) Structural Isomerism
b) Stereo Isomerism
c) Geometrical Isomerism
d) Optical Isomerism

(xvi) Identify the correct compound that will exhibit cis-trans isomerism?

a) 2-butene
b) 2-butyne
c) 2-butanol
d) butanal

(xvii) Acridine show_____colour fluorescence by sloution of its salt.

a) Red
b) Green
c) Blue
d) Yellow

(xviii) Identify thhe N-atom in Pyrrole is

a) Sp3 hybridized
b) Sp2 hybridized
c) Sp hybridized
d) None of these

(xix) Clemmensen reduction used to reduce an aldehyde and ketone to_____

a) Alkane
b) Alkene
c) Cycloalkane
d) Alkyne

(xx) Identify the coreect option: when pyrrole is treated with acetic annydrie then the product formed is

a) 2-Acetyl pyrrole
b) 3-Acetyl pyrrole
c) 4-Acetyl pyrrole
d) 5-Acetyl pyrrole

Group-B

(Short Answer Type Questions) 5 x 7=35

2. Discuss any three methods of synthesis of Thiophene (5)
3. Discuss about the chemical reaction of Pyridine (5)
4. Describe the chemical reaction of Quinoline (5)
5. Write the reaction and Explain the mechanism involved in Claisen-Schmidt condensation (5)
6. Explain in brief about geometric isomerism (5)
7. Explain the mechanism involved in Beckmann's rearrangement (5)

OR

Explain "Metal Hydrides" and reactions associated with "Sodium Borohyrate and Lithium Aluminium Hydrate". (5)

8. Illustrate the Dakin reaction and its synthetic applications (5)

OR

Explain the following name reactions : "Clemmensen reduction and Birch reduction". (5)

Group-C

(Long Answer Type Questions) 10 x 2=20

9. Describe the synthesis, physical properties, reactions and medicinal uses of purine (10)
10. Illustrate the following reactions ; A) Skraup Synthesis, B) Chichibabin Reaction, C) Gettermen Reaction in Indole, D) Mannich Reaction in Indole, E) Lapp Synthesis in Isoquiniline (10)

OR

Illustrate what will happen when pyrrole is treated with the followings; A) Nitric acid in acetic anhydried at -100C, B) Sulfur trioxide in pyridine, C) Benzenediazonium chloride, D) Bromine in alcohol (10)

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