

341252(41)

**B. Pharmacy (Second Semester) Examination,
April-May 2019**

(PCI Scheme)

(Branch : Pharmacy)

PHARMACEUTICAL ORGANIC CHEMISTRY - I

Theory (P202T)

Time Allowed : Three hours

Maximum Marks : 75

Note : Question paper is of three parts i.e. (a), (b) and (c). Part (a) consist of 20 MCQs each of 1 mark. All questions are compulsory. Part (b) consists of 3 long answer questions of which attempt any two. Each of 10 marks. Part (c) consists of 9 short answer questions, attempt any seven questions. Each of 5 marks.

Section-'A'

(Objective Type Questions) 20×1=20

Note : Attempt all questions. Each question carries 1 mark.

f. Multiple Choice questions Attempt all MCQs.

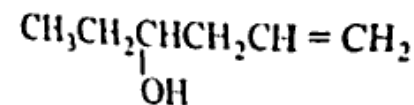
(i) Triple bond with two carbon atoms on either side is called :

- (a) Methyl group
- (b) Ethynly group
- (c) Propionly group
- (d) Propargly group

(ii) What is the hybridization of C in acetylene

- (a) sp¹
- (b) sp²
- (c) sp
- (d) dsp²

(iii) The correct IUPAC name for the following structure is :



- (a) 5-hexen-3-ol
- (b) 1-hexen-4-ol
- (c) 3-hydroxy-5-hexene
- (d) Isohexne-3-ol

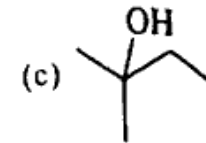
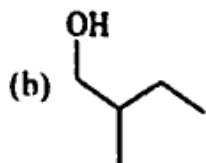
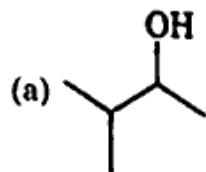
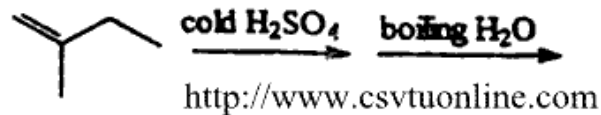
(iv) Which one is saturated compound?

- (a) Propene
- (b) Propyne
- (c) Propane
- (d) Ethane

(v) What is the IUPAC name of Anisole?

- (a) Methoxy benzene
- (b) Amino benzenes
- (c) Propanoic acid
- (d) Hydroxyl benzene

(vi) Predict the major product for the following reaction



(d) The reaction can not proceed

(vii) Given the molecular formula of $C_4H_6OCl_2$. The compound can contain :

- (a) two double bonds
- (b) one double bond and one ring
- (c) one double bond and one triple bond
- (d) one double bond or one ring but not both

(viii) Liquefied petroleum gas is mainly composed of :

- (a) Methane and ethane
- (b) Ethane and propane
- (c) Propane and butane
- (d) Butane and hexane

(ix) Identify the incorrect statement regarding the synthesis of alkenes

- (a) Cracking of a hydrocarbon yields alkene
- (b) The reactions are exothermic

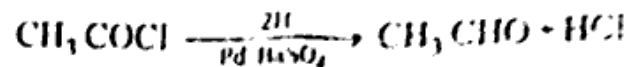
- (c) Zeolite catalyst helps in the synthesis of alkenes
- (d) The synthesis of alkenes is otherwise known as reforming
- (x) Identify the incorrect statement regarding alkadienes
- (a) Dienes show cis-trans isomerism
- (b) Conjugated dienes have better stability compared to other dienes
- (c) Dienophile supports alkadienes
- (d) Alkadienes also undergo hydrobromination
- (xi) Which alkyl halide out of the following may follow both SN1 and SN2 mechanism?
- (a) $\text{CH}_3\text{-X}$
- (b) $(\text{CH}_3)_2\text{CH-X}$
- (c) $(\text{CH}_3)_3\text{C-X}$
- (d) $(\text{CH}_3)_3\text{C-CH}_2\text{-X}$
- (xii) Which of the following is not the method of preparation of alkyl halide?
- (a) Darzen's method

- (b) Halogenation of alkene
- (c) Addition of HX on alkene
- (d) Hydration of alkene
- (xiii) Which one of the following compound is obtained by the oxidation of primary alcohol with nascent oxygen?
- (a) Alkanal
- (b) Alkanone
- (c) Ether
- (d) Amine
- (xiv) The reaction of carboxylic acids with alcohols catalysed by conc. H_2SO_4 is called
- (a) Dehydration
- (b) Saponification
- (c) Esterification
- (d) Neutralization
- (xv) The dehydration of alcohols is an example of
- (a) Bimolecular elimination/E2 reaction
- (b) SN2 reaction

(c) SN1 reaction

(d) Unimolecular elimination/E1 reaction

(xvi) What is the name of the given reaction of preparation of aldehyde?



(a) Reimer-Tiemann reaction

(b) Cannizzaro reaction

(c) Rosenmund reaction

(d) Reformatsky reaction

(xvii) Catalyst SnCl_2/HCl is used in which of the following method of synthesis of aldehyde?

(a) Stephen's reduction

(b) Cannizzaro reaction

(c) Clemmensen's reduction

(d) Rosenmund's reduction

(xviii) Which Catalyst is used in Rosenmund reduction?

(a) Pd / BaSO_4

(b) Zn-Hg couple

(c) LiAlH_4

(d) Ni/H_2

(xix) X heated with Soda Lime and gives ethane. X is :

(a) Ethanoic Acid

(b) Methanoic Acid

(c) Propionic Acid

(d) Ether

(xx) Which of the following does not give benzoic acid on hydrolysis ?

(a) Phenyl Cyanide

(b) Benzoyl Chloride

(c) Benzyl Chloride

(d) Methyl Benzoate

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Section-'B'

(Long Answer Type Questions) 2×10=20

*Note : Attempt any two questions out of 3 question.
Each question carries 10 marks.*

2. Write method of preparation and chemical reactions of alkanes.
3. Explain acidity of carboxylic acid and effect of substituent on acidity.
4. Write methods of preparation and qualitative tests of alcohols.

Section-'B'

(Short Answer Type Questions) 7×5=35

Note : Attempt any seven questions out of nine questions. Each question carries 5 marks.

5. Explain SN₁ and SN₂ reaction.
6. Explain classification and nomenclature of organic compounds.

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7. Explain Markownikoff's and Anti-Markownikoff's orientation.
8. Write structure and uses of acetic acid and ethyl alcohol.
9. Write method of preparation of aliphatic amines.
10. Explain cannizzaro reaction and crossed Cannizzaro reaction.
11. Write the chemical reaction of carboxylic acid.
12. Explain the effect of substitution on basicity of aliphatic amine.
13. Explain nucleophilic addition reaction on carbonyl compound.

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