

341252(41)

**B. Pharmacy (Second Semester) Examination,
April-May 2020**

(PCI Scheme)

(Pharmacy Branch)

PHARMACEUTICAL ORGANIC CHEMISTRY-I

THEORY (BP202T)

Time Allowed : Three hours

Maximum Marks : 75

Note : Question paper contains 3 parts namely Part A, Part B and Part C. Attempt all questions in Part A. Attempt any **two** questions in Part B. Attempt any **seven** question in Part C. Each question in Part A is of 1 mark. Each questions in Part B is of 10 marks. Each question in Part C is of 5 marks.

Part-A **1×20=20**

Note : Attempt all questions.

1. Multiple Choice Questions :

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- (i) IUPAC name of CH_3OCH_3 :
- (a) Diethyl ether
 - (b) Dimethyl ether
 - (c) Methoxymethane
 - (d) Methoxyethane
- (ii) Benzene is :
- (a) 1,3,5-Cyclohexatriene
 - (b) Diene
 - (c) Cyclotetracene
 - (d) None of the above
- (iii) Hydrocarbon which is liquid at room temperature is :
- (a) Pentane
 - (b) Ethane
 - (c) Butane
 - (d) Propane
- (iv) Structural isomers have different
- (a) Molecular formula
 - (b) Structural formula

- (c) Empirical formula
- (d) None of the above
- (v) Reaction of halogens in an alkane in the presence of sunlight is an example of :
- (a) Hydrogenation
- (b) Oxidation
- (c) Halogenation
- (d) Addition
- (vi) Which of the following alkanes can be easily sulphonated?
- (a) n-Butane
- (b) Isobutane
- (c) n-Pentane
- (d) n-Hexane
- (vii) Addition of HBr to 1-Pentene in presence of peroxides predominantly gives :
- (a) 1-Bromobutane
- (b) (-)-2-Bromobutane
- (c) (+)-2-Bromobutane
- (d) (+ -)-2-Bromobutane

- (viii) Loss of hydrogen halide from alkyl halide gives :
- (a) Alkenes
 - (b) Alkanes
 - (c) Alcohol
 - (d) Halogen
- (ix) Due to presence of double bonds, alkenes are :
- (a) Saturated
 - (b) Unsaturated
 - (c) Polar
 - (d) Non polar
- (x) Diels-Alder reactions are :
- (a) Stereospecific
 - (b) Stereo selective
 - (c) Polymerization reaction
 - (d) Both (a) and (b)
- (xi) S_N1 reaction occurs through the intermediate formation of :
- (a) Carbenes
 - (b) Carbocation
 - (c) Free radical

- (d) None of these
- (xii) Which of the following is a vinyl halide?
- (a) 1-Bromocyclohexene
- (b) Chloroethene
- (c) 1-Chloro-3-phenylpropene
- (d) All of the above
- (xiii) S_N2 reaction can be best carried out with :
- (a) 2° Alkyl halide
- (b) 1° Alkyl halide
- (c) 3° Alkyl halide
- (d) All of the above
- (xiv) General formula for alcohol is :
- (a) $C_n H_{2n+2} O$
- (b) $C_n H_{2n} O$
- (c) $C_n H_{2n} O_2$
- (d) $C_n H_{2n+1} O$
- (xv) Victor Meyer's test is not given by :
- (a) $(CH_3)_3COH$
- (b) $(CH_3)_2CHOH$

(c) C_2H_5OH

(d) $CH_3CH_2CH_2OH$

(xvi) Secondary alcohol is obtained by reduction of :

(a) Aldehyde

(b) Alkenes

(c) Ketone

(d) Amines

(xvii) When benzoic acid is treated with $LiAlH_4$:

(a) Benzyl alcohol

(b) Benzaldehyde

(c) Benzene

(d) Toluene

(xviii) Carboxylic acid can undergo ionization in :

(a) Absence of alpha-H atom

(b) Hydrogen bonding

(c) High reactivity of alpha-H atom

(d) None of the above

(xix) In Hofmann's method for separation of 1° , 2° and 3° amines the reagent used is :

- (a) Diethyl oxalate
(b) Nitrous chloride
(c) Nitrous acid
(d) None of the above
- (xx) The most reactive alkyl halide is :
- (a) C_2H_5F
(b) C_2H_5Cl
(c) C_2H_5Br
(d) C_2H_5I

Part-B 2×10=20

Note : Answer any two question from Part-B. All question carry equal marks.

- Write methods of preparation and chemical reactions of alkyl halides.
- Write methods of preparation and addition reactions of alkenes.
- Write methods of preparation and esterification reaction of carboxylic acid.

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Part-C 5×7=35

Note : Answer any seven question from Part-C. All question carry equal marks.

5. Explain the effects of substituents on acidity of carboxylic acid.
6. Define and classify structural isomerism of organic compounds.
7. Explain Markownikoff's and Anti-Markownikoff's rule.
8. Differentiate between E1 and E2 reaction.
9. Explain IUPAC system of nomenclature of alcohol and aliphatic amines.
10. Write structure and uses of glycerol, chloroform, acetyl salicylic acid, amphetamine.
11. Explain Diels-Alder reaction.
12. Give identification tests of alcohol.
13. Distinguish between Cannizzaro and Mixed Cannizzaro reaction.