

**BRAINWARE UNIVERSITY****Term End Examination 2020 - 21****Programme – Bachelor of Pharmacy****Course Name – Pharmaceutical Organic Chemistry II****Course Code - BP301T****Semester / Year - Semester III****Time allotted : 90 Minutes****Full Marks : 75**

[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 75=75**

1. *(Answer any Seventy five)*

(i) Gammexane is _____

- | | |
|--------------------------|--------|
| a) Hexachloroethane | b) DDT |
| c) Hexachlorocyclohexane | d) TNT |

(ii) Benzene reacts with acetic anhydride in the presence of anhydrous aluminium chloride to form _____

- | | |
|----------------------|-------------------|
| a) Acetophenone | b) Benzophenone |
| c) Phenylacetic acid | d) Phenyl acetate |

(iii) In sulfonation of benzene the attacking species is _____

- | | |
|-----------|--------------|
| a) H^+ | b) SO_2 |
| c) SO_3 | d) HSO_4^- |

(iv) Which of the following agent is used in order to make benzene react with chloride to give acetophenone?

- | | |
|----------------------|-----------------------|
| a) Ultraviolet light | b) $AlCl_3$ catalyst |
| c) Platinum catalyst | d) Al_2O_3 catalyst |

(v) Benzene reacts with concentrated HNO_3 in presence of concentrated H_2SO_4 to give nitrobenzene. This reaction is an example of _____

- | | |
|---------------------------|--------------------------|
| a) Electrophilic addition | b) Nucleophilic addition |
|---------------------------|--------------------------|

d) Nucleophilic substitution

a) o-Xylene

b) benzene

c) o-plus p-Xylene

d) Toluene

a) Perkin reaction

b) benzoin condensation

c) Etard's reaction

d) Ozonolysis

a) Quinone

b) Benzaldehyde

c) Benzyl alcohol

d) Benzoic acid

a) Ortho director

b) ortho-para director

c) meta director

d) ortho-meta director

a) Phenylzinc

b) Benzene

c) Cyclohexanone

d) Benzoic acid

a) sp hybridized

b) sp^3 hybridized

c) sp^2 hybridized

d) None of these

a) DDT

b) BHC

c) Phenol

d) Aniline

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- a) Same rate
- c) Slower rate

- b) Faster rate
- d) Can not predict

(xxi) Which of the following compounds is most readily sulphonated?

- a) Benzene
- c) Nitrobenzene

- b) Toluene
- d) Benzoic acid

(xxii) Toluene reacts with methyl chloride in presence of aluminium chloride to form a mixture of _____

- a) Ortho and Para-toluenesulphonic acid
- c) Ortho and Para-Methylacetophenone

- b) Ortho and Para-Xylene
- d) ortho and para-chlorotoluene

(xxiii) Phenol is used

- a) In alcoholic beverages
- c) in antiseptics

- b) an anesthetic
- d) as moth repellant

(xxiv) Which of the following compounds is aspirin

- a) Methyl salicylate
- c) Phenyl salicylate

- b) Salicylic acid
- d) Acetylsalicylic acid

(xxv) Sodium phenoxide reacts with CO_2 at 1250°C under 5 atm pressure to give salicylic acid. This reaction called as _____

- a) Kolbe's reaction
- c) Wurtz reaction

- b) Perkin reaction
- d) HVZ reaction

(xxvi) Anisole is formed when phenol is treated with _____

- a) $\text{CH}_3\text{I}/\text{NaOH}$
- c) $\text{CHCl}_3/\text{NaOH}$

- b) $\text{CH}_3\text{CH}_2\text{I}/\text{NaOH}$
- d) Acetic Anhydride

(xxvii) Which groups forms the strongest H bonds to water molecules?

- a) Alcohols

- b) Ethers

c) Phenols

d) All equally strong

(xxviii) The compound which is most capable of hydrogen bonding is _____

a) $\text{CH}_3\text{OCH}_2\text{CH}_3$

b) $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3$

c) $\text{C}_6\text{H}_5\text{OH}$

d) $\text{CH}_3\text{CH}_2\text{-S-S-CH}_2\text{CH}_3$

(xxix) Which of the following compound is least acidic?

a) HCl

b) Phenol

c) Acetylene

d) Picric acid

(xxx) Which of the following statements is false about primary amines?

a) They can be prepared by reduction of nitriles with LiAlH_4

b) They react with ice-cold nitrous acid to form nitrogen gas

c) They do not form salts with acids.

d) They are basic and soluble in water.

(xxxi) Amines are generally classified as _____

a) Weak acids

b) Strong acids

c) weak bases

d) Strong bases

(xxxii) Which of the following is most basic?

a) Methylamine

b) Trimethylamine

c) Dimethylamine

d) Ammonia

(xxxiii) Alkyl halides react with ammonia in presence of the base to form as _____

a) Primary amines

b) Nitrated alkyl halides

c) Amides

d) Quaternary ammonium

(xxxiv) Aliphatic primary amine reacts with cold nitrous acid to form _____

- a) Alcohol
- c) Nitriles

- b) Diazonium salts
- d) Nitroalkanes

(xxxv) Methyl amine reacts with nitrous acid to form _____

- a) CH_3CH_3
- c) CH_3NO_2
- b) CH_3OH
- d) $\text{CH}_3\text{CH}_2\text{OH}$

(xxxvi) Hinsberg's reagents is _____

- a) $\text{Pd} + \text{BaSO}_4$
- c) $\text{NH}_2\text{NH}_2 + \text{KOH}$
- b) p-Toluenesulfonic acid
- d) Benzenesulfonic acid

(xxxvii) 2° amine is known as

- a) N-methyl amine
- c) N,N-tri methyl amine
- b) N,N-Di methyl amine
- d) None of these

(xxxviii) o-hydroxy benzoic acid is known as

- a) benzoic acids
- c) anthranilic acid
- b) salicylic acid
- d) phthalic acid

(xxxix) o-amino benzoic acid is known as

- a) benzoic acids
- c) anthranilic acid
- b) salicylic acid
- d) phthalic acid

(xl) Phenol is treated with acetic anhydride in presence of sodium hydroxide to give _____

- a) Salicylaldehyde
- c) Phenoxide
- b) Phenyl acetate
- d) Formaldehyde

(xli) Primary amine react with nitrous acid to produce _____

- a) Nitrogen gas
- c) Produce soluble nitrite salts
- b) Yellow oily layer
- d) No reaction

(xlii) Lemon's Contain

- a) Citric acid
- c) Tartaric acid

- b) Lactic acid
- d) Formic acid

(xliii) Malic acid is present in

- a) Sour apple
- c) Lemon

- b) Sour mango
- d) Grapes

(xliv) Phosphatidic acid contain _____

- a) Glycerol and fatty acid
- c) Phosphoric acid

- b) Glycerol, fatty acid and phosphoric acid
- d) Glycerol, fatty acid and choline

(xlv) Rancidity of fat is due to _____

- a) Hydrolysis of ester bond
- c) Addition of halogen

- b) Hydrogenation of unsaturated bond
- d) Substitution Reaction

(xlvi) Atherosclerosis is _____

- a) Accumulation of fat in liver
- c) Increase level of glucose in blood

- b) Excretion of cholesterol in urine
- d) Deposition of cholesterol ester in arteries

(xlvii) Storage form of lipid in plants and animals

- a) Triglycerol
- c) Cholic Acid

- b) Cholesterol
- d) Phospholipid

(xlviii) Hydrolysis of ester linkage of fat causes

- a) Rancidity
- c) Both of Rancidity and Resinification

- b) Resinification
- d) None of these

(xlix) Essential fatty acid is

- a) Linoleic acid

- b) Plamitic acid

c) Steric acid

d) Myristic acid

(I) Iodine value of Arachis oil is _____

a) 84 to 100

b) 65 to 70

c) 80 to 85

d) 105 to 110

(li) Soft soap is _____

a) Potassium salt

b) Sodium salt

c) Calcium salt

d) cetrimide

(lii) The lanolin is _____

a) Wool Alcohol

b) Hydrocarbon

c) Hydrous wool fat

d) Anhydrous wool fat

(liii) Antioxidant used to prevent Rencidification of fats & oil

a) BHA

b) Tocopherol

c) BHT

d) All of them

(liv) Synthetic detergents are

a) Magnesium lauryl sulfate

b) potassium lauryl sulfate

c) sodium lauryl sulfate

d) None of these

(lv) Sodium and potassium salts of fatty acids are called

a) Phospolipids

b) Proteins

c) Carbohydrates

d) Soaps

(lvi) A wax is _____

a) A non polar solid

b) A long chain alcohol

c) A triscylalcohol

d) None of these

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(lvii) General formula of synthetic detergents is _____

- a) RONa
- b) RCOOH
- c) RCOONa
- d) ROSO_3N

(lviii) Liquid oils can be converted to solid fats by _____

- a) Saponification
- b) Hydrogenation
- c) Hydrolysis
- d) Oxidation

(lix) Anthracene is a polycyclic aromatic hydrocarbon composed of three fused _____ rings

- a) Benzene
- b) Ethylene
- c) Alkane
- d) Pyridine

(lx) Anthracene undergoes electrophilic substitution reaction mainly at

- a) C-1
- b) C-2
- c) C-9
- d) C-1 and C-2

(lxi) Anthracene undergoes addition and electrophilic substitution reaction preferentially occur at-

- a) C1 and C4
- b) C9 and C10
- c) C5 and C8
- d) C4 and C5

(lxii) Derivative of naphthol is

- a) 1-naphthol
- b) 2-naphthol
- c) Both 1-naphthol and 2-naphthol
- d) None of these

(lxiii) Vinegar contains

- a) Acetic acid
- b) Lactic acid
- c) Tartaric acid
- d) Formic acid

(lxiv) Nitration of phenanthrene produces

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- a) 6-nitro phenanthrene
- c) 8-nitro phenanthrene

- b) 7-nitro phenanthrene
- d) 9-nitro phenanthrene

(lxv) Reduction of naphthalene with sodium and alcohol forms _____

- a) 1,4-dihydronaphthalene
- c) 2,4-dihydronaphthalene

- b) 1,2-dihydronaphthalene
- d) 1,3-dihydronaphthalene

(lxvi) General formula of cycloalkane is

- a) C_nH_{2n}
- c) C_nH_{n+1}

- b) C_nH_{2n+1}
- d) C_nH_n

(lxvii) Identify the gaseous cycloalkanes at room temperature

- a) Cyclobutane
- c) Cyclohexane

- b) Cyclopentane
- d) All of these

(lxviii) Melting point of cycloalkanes gradually increase with increasing

- a) Bond angle
- c) Molecular weight

- b) Angle strain
- d) All of these

(lxix) Which of the cycloalkanes is most reactive

- a) Cyclopropane
- c) Cyclopentane

- b) cyclobutane
- d) Cyclohexane

(lxx) The most stable conformation of cyclohexane is the

- a) Chair form
- c) Newman form

- b) Haworth form
- d) Boat form

(lxxi) Cyclopropane reacts with concentrated HBr to give

- a) 1- Bromopropane
- c) 2- Bromopropane

- b) Bromocyclopropane
- d) 1,2- Dibromopropane

(lxxii) Cyclopropane has the structure of

- a) pentagon
- b) square
- c) triangle
- d) hexagon

(lxxiii) Cyclopropane reacts with bromine to produce

- a) 2-bromopropane
- b) 1-bromopropane
- c) 3-bromopropane
- d) None of these

(lxxiv) Cyclohexane reacts with chlorine to produce

- a) chlorocyclohexane
- b) chlorocyclopentane
- c) chlorocyclobutane
- d) chlorocycloheptane

(lxxv) Cycloalkane have the same molecular formula as:

- a) Alkanes
- b) Alkenes
- c) Alkynes
- d) Cycloalkenes