

B.Pharm. (CBCS Pattern) Semester - III  
**BP301T - Pharmaceutical Organic Chemistry-II**

P. Pages : 3

Time : Three Hours



**GUG/S/23/10884**

Max. Marks : 75

- Notes :
1. Diagrams and Chemical equation should be given wherever necessary.
  2. Illustrate your answers wherever necessary with the help of neat sketches.
  3. All questions are compulsory.

**1. Multiple Choice Questions.**

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- 1) Nitration of benzene molecule shows reaction of
  - a) Nucleophilic substitution
  - b) Electrophilic substitution
  - c) Addition Reaction
  - d) All of the above
- 2) Huckel Rule is also known as-
  - a)  $(4n + 2)\pi$  rule
  - b)  $(4n + 1)\pi$  rule
  - c)  $(4n + 2)\sigma$  rule
  - d)  $(4n + 1)\sigma$  rule
- 3) Phenol is-
  - a) Solid
  - b) Crystalline solid
  - c) Gas
  - d) Liquid
- 4) The following reaction is
$$\text{C}_6\text{H}_6 + \text{R}-\text{Cl} \xrightarrow[\text{AlCl}_3]{\text{Anhyd.}} \text{C}_6\text{H}_5\text{R} + \text{H}-\text{Cl}$$
  - a) Friedal Craft's acylation
  - b) Friedal Craft's alkylation
  - c) Xliteration
  - d) Halogenation
- 5) Phenol can be distinguished from ethanol by the reaction with.
  - a)  $\text{Br}_2/\text{water}$
  - b) Na
  - c) Neutral  $\text{FeCl}_3$
  - d) All
- 6) Picric Acid forms when phenol reacts with.
  - a) Hydrogen
  - b) Nitric acid
  - c) Sulphuric acid
  - d) Formaldehyde
- 7) Aldehydes and Ketones an reductive amination give.
  - a)  $1^\circ$  amine
  - b)  $2^\circ$  amine
  - c)  $1^\circ$  or  $2^\circ$  amine
  - d)  $3^\circ$  amine
- 8) Electron releasing group on aromatic amines.
  - a) Decrease the basicity
  - b) Increase the basicity
  - c) Neutral the basicity
  - d) None of above
- 9) Acyl chlorides are made by reacting aromatic acids with.
  - a)  $\text{PCl}_3$
  - b)  $\text{PCl}_5$
  - c)  $\text{SOCl}_2$
  - d) All of the above

- 10) Salts of aromatic acids are formed when aromatic acid react with-
  - a) Metals
  - b) Alkali
  - c) Carbonates
  - d) All of above
- 11) Which of the following is suitable solvent for oil and fats?
  - a) Benzene
  - b)  $\text{CCl}_4$
  - c)  $\text{CHCl}_3$
  - d) All of the above
- 12) Saponification is done----
  - a) By alkali hydrolysis
  - b) By acids
  - c) By salts
  - d) All of the above
- 13) In aromatic hydrocarbons they have-----
  - a) Only sigma bonds
  - b) Only pi bonds
  - c) Sigma & delocalized Pi bond
  - d) Sigma & two Pi bond
- 14) The catalyst used in addition of iodine is-----
  - a) Ni/pt
  - b) Lewis Acid
  - c)  $\text{CH}_3\text{MgCl}$
  - d)  $\text{MgCl}_2$
- 15) Anthracene on oxidation with  $\text{Na}_2\text{Cr}_2\text{O}_7$  to give.
  - a) Phthalic Acid
  - b) Benzoic Acid
  - c) Anthraquinone
  - d) Benzophenone
- 16) Xlaphthalene on reaction with  $\text{H}_2/\text{Ni}$  gives.
  - a) Cis decalin
  - b) Trans decalin
  - c) Cis tetralin
  - d) Trans- tetralin
- 17) Which of the following compound have highest ring strain-
  - a) Cyclopropane
  - b) Cyclobutane
  - c) Cyclopentane
  - d) Cyclomethane
- 18) Cyclopropane when reacted with bromine if gives-----
  - a) 1, 2 - dibromopropane
  - b) 1, 3 - dibromopropane
  - c) 1, 4 - dibromopropane
  - d) 1, 1 - dibromopropane
- 19) Oxidation of diphenyl methane with chromic acid yields-----
  - a) Acetophenone
  - b) Benzophenone
  - c) Fluorene
  - d) Triphenylmethane
- 20) Name the method by which cyclic ketones is converted into cycloalkanes in presence of amalgam and con. HCl
  - a) Wolff-Kishmer Reaction
  - b) Clemmensen's Reduction
  - c) Diel's Alder Reaction
  - d) None of the above

2. Long answer questions solve **any two**.

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- i) Write a detailed note on the analysis of oils and fats.
- ii) Enumerate synthesis and chemical reactions of phenanthrene.

iii) Write a detailed note on Friedal Craft's Alkylation and Friedal Craft's acylation.

3. Short answer questions solve **any seven**.

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i) Explain Coulson and Moffitt's modification.

ii) Explain Baeyer's strain theory.

iii) Write short note on-

a) Iodine value

b) Saponification value

iv) How will you synthesize anthracene?

v) Write a note on sulphonation & nitration.

vi) Explain effect of electron withdrawing groups on the basicity of aromatic amines.

vii) How do you explain acidic nature of phenols.

viii) Give synthetic application of aryl diazonium salts.

ix) Give any two methods for preparation of benzoic acid.

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