

Course: B. Pharm.

Semester: III

Subject with Subject Code: Pharmaceutical Organic Chemistry-II (BP301T)

Date: 18/05/2018

Marks: 75

Duration: 3hrs

Instructions: i) All questions are compulsory
ii) Figures to the right indicate full marks
iii) Draw the diagrams or flow charts wherever necessary.

Q. 1 Choose the correct alternative.

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- Which statement of the following gives false information about benzene?
 - It is immiscible with water forming the lower layer.
 - It is a planar molecule with bond angle 120° .
 - It can be converted into cycloheptane by hydrogenation at 200°C in the presence of Ni catalyst.
 - It reacts with ethyl chloride in the presence of aluminium chloride to form ethylbenzene.
- Benzene undergoes substitution reactions more easily than addition reactions because:
 - It has a cyclic structure
 - It has double bonds
 - It has six hydrogen atoms
 - There is delocalization of electron
- Benzene reacts with H_2 at 150°C at 30 atm in presence of Ni catalyst to give:
 - Cyclohexane
 - Cyclohexene
 - n - Hexane
 - None of the above
- The electrophile which is considered to be the active agent in the nitration of benzene is:
 - NO_2
 - NO^+
 - NO_2^+
 - HNO_2^+
- Sodium or potassium salts of fatty acids are called
 - Surfactants
 - Detergents
 - Carbohydrates
 - Soaps
- Partial hydrogenation of vegetable oils in the presence of Ni catalyst at 200°C gives
 - Vanaspati ghee
 - Margarine
 - Both (A) and (B)
 - None of these
- The degree of unsaturation of a fat can be determined by means of its
 - Iodine number
 - Octane number
 - Saponification number
 - Melting point

8. Ozonolysis of naphthalene ring gives
- Phthalic acid
 - Phthaledehyde
 - Phthalic anhydride
 - Napthaquinone
9. _____ compound is used for preparation of dyes such as; malachite green, bromocresol green.
- Diphenylamine
 - Anthracene
 - Naphthalene
 - Triphenylamine
10. Anthracene undergoes electrophilic substitution reactions mainly at _____
- C-1
 - C-2
 - C-9
 - C1 & C-2
11. Naphthalene undergoes nitration with $\text{HNO}_3/\text{H}_2\text{SO}_4$ at $50-60^\circ\text{C}$ to give mainly _____.
- 1-nitronaphthalene
 - 2-nitronaphthalene
 - 1,2-dinitronaphthalene
 - 1,8-dinitronaphthalene
12. Cycloalkanes have similar formula as _____.
- Alkanes
 - Alkenes
 - Alkynes
 - Cycloalkenes
13. Which of the following is treated with sodium in dry ether to give cyclopropane?
- 1,1-dibromopropane
 - 1,2-dibromopropane
 - 1,3-dibromopropane
 - 2,2-dibromopropane
14. Which of the following cycloalkane is not expected to have ring strain?
- Cyclobutane
 - Cyclohexane
 - Cyclopropane
 - Cycloheptane
15. The most stable confirmation of cyclohexane is the _____.
- Haworth
 - Chair
 - Boat
 - Newmann
16. When phenol reacts with neutral FeCl_3 solution it develops _____.
- Yellow color
 - Orange color

- C. Green color
- D. Violet color

17. Sodium phenoxide reacts with CO_2 at 125°C under 5atm pressure to give salicylic acid.

This reaction is called

- A. Kolbe's reaction
- B. Perkin reaction
- C. Wurtz reaction
- D. HVZ reaction

18. Benzoic acid on heating with soda lime gives _____

- A. Sodium phenoxide
- B. Benzene
- C. Benzaldehyde
- D. Benzophenone

19. Which of the following reagent is used to prepare benzediazonium chloride from aniline?

- A. $\text{NaNO}_2 + \text{HCl}$
- B. $\text{NH}_2\text{NH}_2 + \text{KOH}$
- C. LiAlH_4
- D. NaOH

20. Which of the following is strongest acid?

- A. Trichloroacetic acid
- B. Phenol
- C. Acetic acid
- D. Benzoic acid

Q. 2 Answer **any two** of the following questions.

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- A. Explain the Nitration & sulphonation of benzene.
- B. Explain the method of preparation and reactions of Naphthalene.
- C. Define fatty acids. Explain Reichert-Meissl (RM) Value and Saponification Value in detail. Comment on rancidity of oils.

Q. 3 Answer **any seven** of the following questions.

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- A. Explain the Basicity of Amines.
- B. Give the reactions of Benzoic Acid.
- C. Explain the stability of Cycloalkane.
- D. Explain the chemical reactions of Phenanthrene.
- E. Give structure and uses of
 - a. Benzene hexachloride
 - b. Chloramine-T
- F. Write a note on Friedel Craft's Alkylation.
- G. Explain various methods for preparation of Phenols
- H. Explain the significance and principle involved in determination of Acid value and Iodine value.
- I. Give the methods of preparation and reactions of Cycloalkanes.

*** End ***