

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE - RAIGAD - 402 103

Winter Semester Examination - December - 2018

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  $120^\circ$ .
  - It can be converted into cycloheptane by hydrogenation at  $200^\circ\text{C}$  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  $\text{H}_2$  at  $150^\circ\text{C}$  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:
  - $\text{NO}_2$
  - $\text{NO}_2^+$
  - $\text{NO}_2^-$
  - $\text{HNO}_2^+$
- 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  $200^\circ\text{C}$  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 .....
- A. Phthalic acid
  - B. Phthaledehyde
  - C. Phthalic anhydride
  - D. Napthaquinone
9. \_\_\_\_\_ compound is used for preparation of dyes such as; malachite green, bromocresol green.
- A. Diphenylamine
  - B. Anthracene
  - C. Naphthalene
  - D. Triphenylamine
10. Anthracene undergoes electrophilic substitution reactions mainly at \_\_\_\_\_
- A. C-1
  - B. C-2
  - C. C-9
  - D. 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 \_\_\_\_\_.
- A. 1-nitronaphthalene
  - B. 2-nitronaphthalene
  - C. 1,2-dinitronaphthalene
  - D. 1,8-dinitronaphthalene
12. Cycloalkanes have similar formula as \_\_\_\_\_.
- A. Alkanes
  - B. Alkenes
  - C. Alkynes
  - D. Cycloalkenes
13. Which of the following is treated with sodium in dry ether to give cyclopropane?
- A. 1,1-dibromopropane
  - B. 1,2-dibromopropane
  - C. 1,3-dibromopropane
  - D. 2,2-dibromopropane
14. Which of the following cycloalkane is not expected to have ring strain?
- A. Cyclobutane
  - B. Cyclohexane
  - C. Cyclopropane
  - D. Cycloheptane
15. The most stable confirmation of cyclohexane is the \_\_\_\_\_.
- A. Haworth
  - B. Chair
  - C. Boat
  - D. Newmann
16. When phenol reacts with neutral  $\text{FeCl}_3$  solution it develops \_\_\_\_\_.
- A. Yellow color
  - B. Orange color



- C. Green color
- D. Violet color

17. Sodium phenoxide reacts with  $\text{CO}_2$  at  $125^\circ\text{C}$  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.  $\text{LiAlH}_4$
- D.  $\text{NaOH}$

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.

- 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.

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Q. 3 Answer any seven of the following questions.

- 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.

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\*\*\* End \*\*\*