

Seat No: \_\_\_\_\_

Enrollment No: \_\_\_\_\_

PARUL UNIVERSITY  
FACULTY OF PHARMACY  
B. Pharm. Winter 2021-22 Examination

Semester: 3

Subject Code: BP301T

Subject Name: Pharmaceutical Organic Chemistry-II

Date: 04/10/2021

Time: 02:00 pm to 05:00 pm

Total Marks: 75

Instructions:

1. Figures to the right indicate maximum marks.
2. Make suitable assumptions wherever necessary.

Q.1 Multiple Choice Questions (MCQs) (1 Mark Each)

(20)

1. What is meant by hydrotroping agents?  
a) Oxidizing  
b) Reducing  
c) Solubilizing  
d) None of the above
2. Phenol is  
a) Solid  
b) Gas  
c) Crystalline solid  
d) Liquid
3. Melting point of phenol relatively high than aryl compound because of  
a) Hydrogen bonding  
b) Ionic bonding  
c) Covalent bonding  
d) All of above
4. Which of following is an intermediate compound for the formation of Resorcinol?  
a) Phenol  
b) Aldehyde  
c) Benzene  
d) Ketone
5. Aniline is usually purified by which method?  
a) Steam distillation  
b) Vacuum distillation  
c) Simple distillation  
d) Extraction with the solvent
6. Identify the compound with the highest ring strain  
a) Cyclopropane  
b) Cycloheptane  
c) Cyclobutane  
d) Cyclopentane
7. When aniline is heated with chloroform and alcoholic KOH, the product is  
a) Benznitrile  
b) Phenylisocyanide  
c) P-chloroaniline  
d) M-chloroaniline
8. Cycloalkanes are associated with the general formula  
a)  $C_nH_{2n+2}$   
b)  $C_nH_{2n+1-r}$   
c)  $C_nH_{2(n+2)}$   
d)  $C_nH_{2(n+1-r)}$
9. What is the X in following reaction?  
$$CH_3CN + 4H \xrightarrow{LiAlH_4} X$$
  
a) Methylamine  
b) Ethylamine  
c) Propylamine  
d) None
10. Which of the following is an example of fats?  
a) Glyceryl trioleate  
b) Coconut oil  
c) Vegetable ghee  
d) Ground nut oil
11. Which of the following is not suitable solvent for oils and fats?  
a) Benzene  
b)  $CHCl_3$   
c)  $CCl_4$   
d) Water
12. Which of the following method cannot be used for preparation of aromatic amine?  
a) Gabriel phthalimide synthesis  
b) Reduction of nitro compound  
c) Reduction of nitrile  
d) Decarboxylation of amino acid
13. Complete the following reaction  
 $ROH + H_2SO_4 \xrightarrow{\text{heat}} ?$   
a) Alkane  
b) Alkene  
c) Ester  
d) None of above

14. Sulfone formation reduced by use of  
 a) Solvent  
 c) Solute  
 b) Solution  
 d) None of above
15. How to choose a sulphonating reagent?  
 a) Minimum side reaction  
 c) Compound being sulfonated  
 b) Physical condition  
 d) All of the above
16. Which process is used to produce desired isomer in naphthalene series?  
 a) Sulfonation  
 c) Desulfonation  
 b) Alkylation  
 d) Halogenation
17. Anthracene on oxidation with  $\text{Na}_2\text{Cr}_2\text{O}_7$  gives  
 a) Phthalic acid  
 c) Benzoic acid  
 b) Anthraquinone  
 d) Benzophenone
18. What happens when two molecules of benzyl chloride condense in the presence of  $\text{AlCl}_3$   
 a) Naphthalene  
 c) Anthracene  
 b) Phenanthrene  
 d) None of above
19. Hydrogenation is the conversion of unsaturated acid group into the saturated by a catalyst  
 a) Ti  
 c) Pb  
 b) Ni  
 d) Sn
20. Saponification is hydrolysis:  
 a) By alkali  
 c) By acid  
 b) By salt  
 d) None of above

**Q.2 Long Answers (any 2 out of 3) (10 Mark Each)**

(20)

- Discuss electrophilic substitution reaction of benzene.
- What are synthetic uses of aryl diazonium salts?
  - Explain effect of substituents on acidity of Aromatic acids.
- Explain hydrogenation of oil with diagram. Discuss significance and principal of acid value, Iodine value and saponification value.

**Q.3 Short Answers (any 7 out of 9) (5 Mark Each)**

(35)

- Justify: Halogens are electron deactivating group but ortho and para directing.
- Write down structure and uses of DDT, BHC and Chloramine.
- Explain method of synthesis of anthracene.
- Discuss Baeyer strain theory using concept of angle strain. Limitation of Baeyer strain theory.
- Write reaction with mechanism of Kolbe Reaction and Reimer-tiemann reaction
- Write detail note on the huckel's rule of aromaticity.
- Write down characteristic in aromatic benzene. Write down method of preparation of benzene.
- Aromatic amine is less basic than aliphatic amine and ammonia
  - Cyclopropane is more prone to undergo ring opening reaction than cyclobutane.
- Explain this term "Aqueous solution of phenol is more acidic than alcohol"