

First B.Pharm (Ayurveda) Degree Supplementary Examinations, March 2015

PHARMACEUTICAL CHEMISTRY

Time : 3 hrs

Max marks : 100

- Answer all questions
- Write equations wherever necessary
- Draw diagrams wherever necessary

Essays

(2x10=20)

1. Explain resonance, hyper conjugation and inductive effect with examples.
2. Explain the formation and stability of carbonium ion and free radicals.

Short notes

(10x5=50)

3. Mention the mechanism of esterification
4. Explain the mechanism involved in the reaction of free radical substitution of alkane.
5. Explain electrophilic aromatic substitution reaction with examples.
6. Mention the principle, reaction and procedure involved in limit test of chloride.
7. Explain the different electronic transitions involved in UV spectroscopic studies.
8. Explain the basicity of amines and give the preparation and uses of Grignard reagent.
9. Explain the following
 - Ionic and covalent bonds
 - sp^3 hybridisation
10. Mention any two general methods of preparation of nitro compounds and carboxylic acids.
11. Though chlorine is electron withdrawing, it is ortho-para directing. Give reason.
12. List the uses of following compounds
 - Potassium permanganate
 - Copper sulphate
 - Magnesium sulphate
 - Zinc stearate
 - Sodium bicarbonate

Answer briefly

(10x3=30)

13. The presence of a little amount of oxygen retards chlorination of methane, why.
14. What is Hoffmann elimination.
15. Draw the structural formula for
 - Neopentyl chloride
 - 2-amino-1-pentene
16. Explain the term spin-spin coupling.
17. What is diazocoupling. Explain its mechanism.
18. How will you convert
 - Salicylic acid $\rightarrow$ Aspirin
 - Acetone $\rightarrow$ Mesityl oxide
19. Ozonolysis is an important tool for the structural elucidation of alkynes and alkenes, why.
20. List any two methods for the synthesis of nitriles.
21. Arrange the following in the increasing order of basic strength
 NH_3 , CH_3-NH_2 , $(CH_3)_2-NH$, $(CH_3)_3N$
22. What happens when formaldehyde is reacted with benzaldehyde in the presence of an alkali.
