Adichunchanagiri University

Model QP :PART- II: PHARMACEUTICAL CHEMISTRY SPECALISATION
60M

SEC- A

Note: Answer any *20 questions*. Each question carries ONE mark **20x1=20**

1. Define carbenes?
2. Give structure of tertiary free radical
3. Which intermediate is used in the Wolff rearrangement.
4. Define ester hydrolysis.
5. What are ionic solvents.
6. What is parallel organic synthesis.
7. Write the structure of trimethoprim.
8. Give the reaction for protection of carboxy group.
9. Give the structure of chloramphenicol.
10. Name different biological targets.
11. Define receptor-ligand interaction.
12. Define in-silico De Novo drug design.
13. What are prodrugs, give examples.
14. What are G-protein coupled receptors.
15. Give any two purine antiparasitic agents.
16. Give any two pyrimidine related antifungal agents.
17. Give any two water soluble vitamins.
18. Write any two betalactam agents.
19. Name any two beta lactamase stable cephalosporins.
20. Name any two oral compounds.
21. Name any two adrenal cortex hormones.
22. Give any two structures of cardiac glycosides.
23. Give structure of vinca alkaloids.
24. What are fat soluble vitamins, give examples.
25. What is fluorescence?
26. Define coupling constant.
27. Define shielding and deshielding.
28. Define m/e.
29. What are Meta stable ions?
30. Define isotopic peaks.

SEC- B

Note: Answer any *10 questions.* Each question carries TWO marks 10x2=20

1. Write the formation of carbacations.
2. Write the stability of free radicals.
3. Give any one reaction of nitrene.
4. Give any four advantages of microwave enhanced organic synthesis.
5. What are synthons and uses of synthons?
6. Give synthesis of nifedipine.
7. What is polymorphism, explain with example.
8. What is cine substitution?
9. Define chemical shift and give delta value of hydroxyl group.
10. Write the resonance structure of pyridine.
11. Write any one addition reaction of carbacations.
12. Write any one substitution reaction of free radical.
13. Give the chemical reaction of aldol condensation.
14. Name any two protein-ligand docking techniques.
15. Give IR values for following functional groups: a) -OH, b) -NH2, c) –CO, d) Cl.

SEC- C

Note: Answer any 5 *questions*. Each question carries FOUR marks 5x4=20

1. Explain Wolf rearrangement reaction with mechanism.
2. Describe PTC (phase transfer catalysts).
3. Discuss Macro beads in solid phase synthesis.
4. Explain about amino groups and carbon-carbon multiple bonds.
5. Explain about molecular mechanics with examples.
6. Discuss about lipoxygenase, aromatase and DHFR inhibitors.
7. Explain t-PA as a therapeutic agents.
8. Describe clavulanic acid analogs.
9. Give metabolism of pyrimidines.
10. Characterize the following molecules by IR and H^1 NMR
    a)Ethanol b) 2-Chloro phenol