

# Chemistry in Everyday life

## Short Answer Type Questions

1. What is the average molecular mass of drugs?
2. Write the uses of medicines.
3. What are antiseptics?
4. Which type of drugs come under antimicrobial drugs?
5. Where are receptors located?
6. What is the harmful effect of hyperacidity?
7. Which site of an enzyme is called allosteric site?
8. What type of forces are involved in binding of substrate to the active site of enzyme?
9. What is the commonality between the antibiotic arsphenamine and azo dye?
10. Which class of drugs is used in sleeping pills?
11. Aspirin is pain relieving antipyretic drug but can be used to prevent heart attack. Explain.
12. Both antacids and anti allergic drugs are antihistamines but they cannot replace each other. Explain why?
13. What is a soft soap?
14. If soap has high alkali content it irritates skin. How can the amount of excess alkali be determined? What can be the source of excess alkali?
15. Explain why some times foaming is seen in river water near the place where sewage water is poured after treatment?
16. Which category of the synthetic detergents is used in toothpaste?
17. Hair shampoos belong to which class of synthetic detergent?
18. Dishwashing soaps are synthetic detergents. What is their chemical nature?
19. Draw the diagram showing micelle formation by the following detergent  
$$\text{CH}_3(\text{CH}_2)_{10}\text{CH}_2\text{OSO}_3^-\text{Na}^+$$
20. How does the branching of hydrocarbon chain of synthetic detergents affect their biodegradability?
21. Why is it safer to use soap from the environmental point of view?
22. What are analgesics?

23. What is the scientific explanation for the feeling of depression?
24. What is the basic difference between antiseptics and disinfectants?
25. Between sodium hydrogen carbonate and magnesium hydroxide which is a better antacid and why?
26. Which analgesics are called opiates?
27. What is the medicinal use of narcotic drugs?
28. What are antagonistic drugs?
29. What is the mode of action of antimicrobial drugs?
30. What is the side product of soap industry? Give reactions showing soap formation.
31. What is the difference between bathing soap and washing soaps?
32. How are transparent soaps manufactured?
33. What is the advantage of using antihistamines over antacids in the treatment of acidity?
34. What are the functions performed by histamine in the body?
35. With the help of an example explain how do tranquilizers control the feeling of depression?
36. Why are certain drugs called enzyme inhibitors?
37. What are fillers and what role these fillers play in soap?
38. Sugar is the main source of energy as it produces energy on metabolic decomposition. But these days low calorie drinks are more popular, why?
39. Pickles have a long shelf life and do not get spoiled for months, why?
40. What is the difference between saccharin and saccharic acid?
41. Name an artificial sweetener which is derivative of sucrose.
42. Name two  $\alpha$ -amino acids which form a dipeptide which is 100 times more sweet than cane sugar?
43. Aspartame is unstable at cooking temperature, where would you suggest aspartame to be used for sweetening?
44. Sodium salts of some acids are very useful as food preservatives. Suggest a few such acids.
45. Explain the role of allosteric site in enzyme inhibition?
46. How are receptor proteins located in the cell membrane?
47. What happens when the bond formed between an enzyme and an inhibitor is a strong covalent bond?

## Long Answer Type Questions

1. In what respect do prontosil and salvarsan resemble. Is there any resemblance between azo dye and prontosil? Explain.
2. How do enzymes catalyse a chemical reaction in the living system? Explain drug target interaction taking the example of enzyme as target.
3. Synthetic detergents have advantage over usual soaps as far as cleansing power is concerned. But use of synthetic detergents over a long time creates environmental pollution. How can the pollution caused by synthetic detergents be minimised? Classify the detergents according to their chemical nature.
4. What are enzyme inhibitors? Classify them on the basis of their mode of attachments on the active site of enzymes. With the help of diagrams explain how do inhibitors inhibit the enzymatic activity.