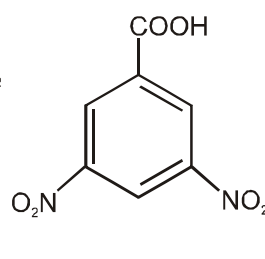
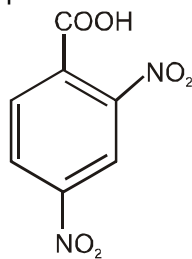
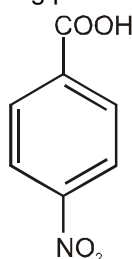
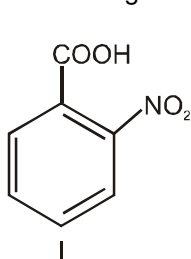


## Self Practice Paper (SPP)

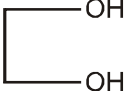


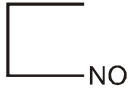
1. Milk contains vitamins :  
 (1) A, D and E                      (2) A, B<sub>12</sub> and D                      (3) C, D and K                      (4) B<sub>1</sub>, B<sub>6</sub> and D
2. 2-Acetoxy benzoic acid is used as an :  
 (1) antimalarial                      (2) antidepressant                      (3) antiseptic                      (4) antipyretic
3. Decreasing order of melting point of compound I to IV follows.



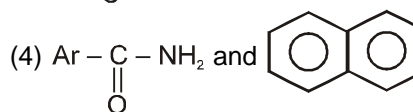
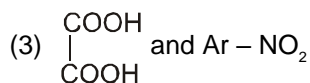
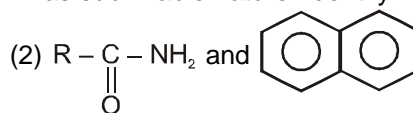
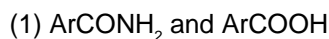
- (1) I > II > III > IV                      (2) IV > III > II > I                      (3) III > IV > II > I                      (4) III > IV > I > II
4. A drug that is antipyretic as well as analgesic is :  
 (1) chloroquin                      (2) penicillin  
 (3) paracetamol                      (4) chlorpromazine hydrochloride
  5. Which of the following compounds is used as a body deodorant ?  
 (1) Aspirin                      (2) Omeprazole                      (3) Indigol-O                      (4) p-Chlorometaxyleneol
  6. Decreasing order of boiling point of I to IV follow.
- $$\begin{array}{c} \text{O} \\ || \\ \text{CH}_3 - \text{C} - \text{CH}_3 \\ \text{I} \end{array}$$

$$\begin{array}{c} \text{O} \\ || \\ \text{CH}_3 - \text{C} - \text{CH}_2 - \text{CH}_3 \\ \text{II} \end{array}$$
- $$\begin{array}{c} \text{O} \\ || \\ \text{CH}_3 - \text{CH}_2 - \text{C} - \text{CH}_2 - \text{CH}_3 \\ \text{III} \end{array}$$

$$\begin{array}{c} \text{O} \\ || \\ \text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{C} - \text{CH}_2 - \text{CH}_2 - \text{CH}_3 \\ \text{IV} \end{array}$$
- (1) I > II > III > IV                      (2) IV > III > II > I                      (3) II > III > IV > I                      (4) I > IV > III > II
7. Bithional is an example of :  
 (1) disinfectant                      (2) antiseptic                      (3) antibiotic                      (4) analgesic
  8. A is a lighter phenol and B is an aromatic carboxylic acid. Separation of a mixture of A and B can be carried out easily by using a solution of  
 (1) Sodium hydroxide                      (2) Sodium sulphate                      (3) Calcium chloride                      (4) Sodium bicarbonate
  9. Which of the following is a natural dye ?  
 (1) Phenolphthalein                      (2) Alizarin                      (3) Martius yellow                      (4) Malachite green
  10. Indigo is an example of :  
 (1) Direct dye                      (2) Ingrain dye                      (3) Vat dye                      (4) Mordant dye
  11. Which of the following is a basic dye ?  
 (1) Alizarin                      (2) Malachite green                      (3) Indigo                      (4) Orange-I
  12. The most widely used antipyretic is :  
 (1) Salicylic acid                      (2) Phenacetin                      (3) Paracetamol                      (4) Aspirin
  13. Novalgin is a common :

- (1) Analgesic                      (2) Antibiotic                      (3) Antipyretic                      (4) Both (1) and (3)
14. Heroin is a derivative of :  
 (1) Caffeine                      (2) Cocaine                      (3) Nicotine                      (4) Morphine
15. Which of the following is/are antidepressant drug/s ?  
 (1) Cocaine                      (2) Benzedrine                      (3) Tofranil                      (4) All the three
16. Penicillin was discovered by :  
 (1) Alexander Fleming    (2) Ziegler and Natta    (3) Walkman                      (4) Abraham
17. Salol can be used as :  
 (1) Antiseptic                      (2) Antipyretic                      (3) Analgesic                      (4) Disinfectant
18. A hybrid propellant uses :  
 (1) A solid fuel and a liquid oxidiser                      (2) A composite solid propellant  
 (3) A biliquid propellant                      (4) A monoliquid propellant
19. Which of the following is not used as a propellant ?  
 (1) Hydrazine                      (2) Unsymmetrical dimethylhydrazine  
 (3) Monomethylhydrazine                      (4) Phenylhydrazine
20. Refining of petroleum does not involve :  
 (1) simple distillation                      (2) steam distillation  
 (3) fractional distillation                      (4) distillation under reduced pressure
21. Which one of the following vitamin contains a metal atom ?  
 (1) Vitamin A                      (2) Vitamin B<sub>2</sub>                      (3) Vitamin B<sub>6</sub>                      (4) Vitamin B<sub>12</sub>
22. Which statement is incorrect ?  
 (1) Salol is used as antiseptic.  
 (2) Tincture of iodine is 2-3% solution of iodoform in alcohol-water.  
 (3) Thiourea and benzenethiol can be separated by water.  
 (4) Aspartame is used as sweetening agent in cold drinks.
23. Which of the following compounds can be separated by water ?  
 (1)                       (2)                       (3)                       (4) 
24. Vitamin B<sub>6</sub> is known as  
 (1) Pyridoxine                      (2) Thiamine                      (3) Tocopherol                      (4) Riboflavin
25. A mixture of two aromatic compound A and B when dissolve in NaOH, A is soluble and its residue B gives 2, 4 DNP test, identify compound A and B.  
 (1) Ph-COOH and Ph-OH                      (2)  $\text{Ph} - \overset{\text{O}}{\underset{\text{O}}{\parallel}}\text{C} - \text{Ph}$  and  $\text{Ph} - \text{NH}_2$   
 (3) Ph - OH and Ph-NH<sub>2</sub>                      (4) Ph - OH and  $\text{Ph} - \overset{\text{O}}{\underset{\text{O}}{\parallel}}\text{C} - \text{Ph}$

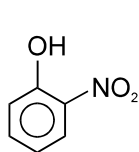
26. When a mixture of compound A & B dissolves in  $H_2O$ . A is soluble and gives smell of ammonia on heating with addition of conc. NaOH. Its residue B has sublimable nature. Identify A and B.



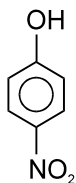
27. Which of the following statement is not true ?

- (1) Small aliphatic compound with at least two functional group which can form hydrogen bond are water soluble
- (2) Most of the aromatic compounds are water insoluble due to large hydrophobic group of six carbon atom.
- (3) Aromatic amines are soluble in aq. NaOH but insoluble in aq. HCl.
- (4) Aromatic hydroxy compounds are soluble in aq. NaOH solution.

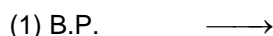
28. The correct orders about compounds I and II are :



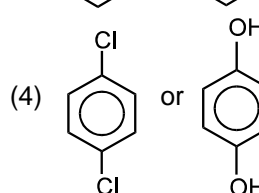
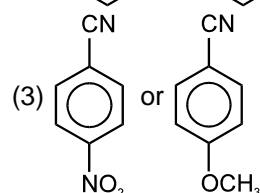
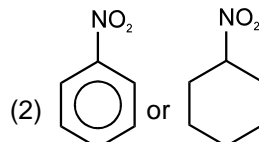
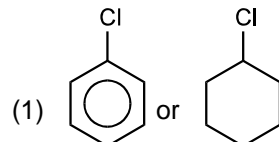
I



II



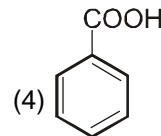
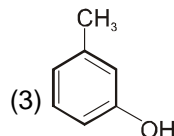
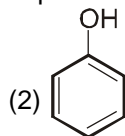
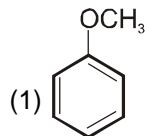
29. In which of the following pairs first has higher dipole moment than second ?



30. Which of the following statements about DNA is not correct ?

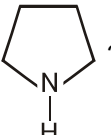




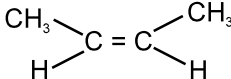
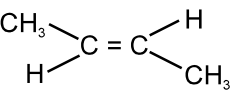
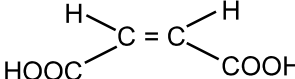
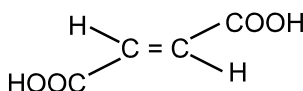
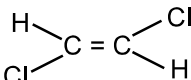
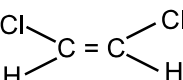
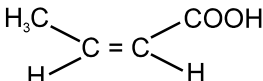
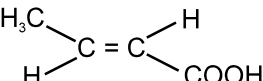
- (1) It has a double helix structure
- (2) It undergoes replication
- (3) The two strands in a DNA molecule are exactly similar
- (4) It contains the 2-deoxyribose pentose sugar.

31. Which of the following compounds does not form salt with NaOH ?



32. The boiling points of two miscible liquids, which do not form azeotropic mixture, are close to each other. Their separation is best carried out by :

- (1) vacuum distillation
- (2) fractional distillation
- (3) steam distillation
- (4) redistillation

33. Which will have higher dipole moment than  ?
- (1)  (2)  (3)  (4) 
34. The relationship between the nucleotide triplets and the amino acids is called  
 (1) Translation (2) Transcription (3) Replication (4) A genetic code
35. The correct order for the given pair of isomers is :
- (1)  >  (Melting point)
- (2)  >  (Dipole moment)
- (3)  >  (Boiling point)
- (4)  >  (Water solubility)
36. The coenzymes are derived from  
 (1) Hormones (2) Vitamins (3) Lipids (4) Carbohydrates
37. The enzyme which hydrolyses cellulose into glucose is :  
 (1) Invertase (2) Maltase (3) Emulsin (4) Lactase
38. Which one of the following has magnesium ?  
 (1) Vitamin B<sub>12</sub> (2) Chlorophyll (3) Haemocyanin (4) Carbonic anhydrase
39. Which of the following sets of bases is present both in DNA and RNA ?  
 (1) Adenine, uracil, thymine (2) Adenine, guanine, cytosine  
 (3) Adenine, guanine, uracil (4) Adenine, guanine, thymine
40. The vitamin which is water soluble and antioxidant is :  
 (1) Vitamin E (2) Vitamin D (3) Vitamin C (4) Vitamin B<sub>1</sub>
41. Calorific value is in the order :  
 (1) Fats > Carbohydrates > Proteins (2) Carbohydrates > Fats > Proteins  
 (3) Proteins > Carbohydrates > Fats (4) Fats > Proteins > Carbohydrates
42. Which base is found only in the nucleotides of RNA ?  
 (1) Adenine (2) Uracil (3) Guanine (4) Cytosine
43. The couplings between base units of DNA is through :  
 (1) Hydrogen bonding (2) Electrostatic bonding  
 (3) Covalent bonding (4) Vander Waals forces
44. The chemical name of vitamin B<sub>1</sub> is :  
 (1) Ascorbic acid (2) Riboflavin (3) Thymine (4) Thiamine
45. Which will have highest dipole moment ?  
 (1) CH<sub>3</sub>-F (2) CH<sub>3</sub>-Cl (3) CH<sub>3</sub>-Br (4) CH<sub>3</sub>-I

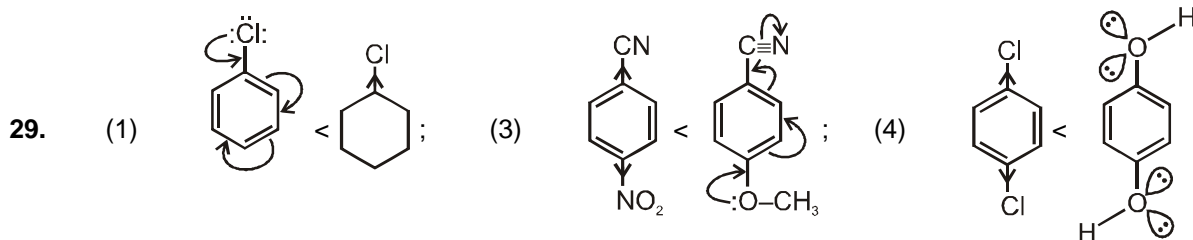
## SPP Answers


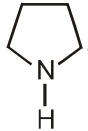
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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1.  | (1) | 2.  | (4) | 3.  | (2) | 4.  | (3) | 5.  | (4) | 6.  | (2) | 7.  | (1) |
| 8.  | (4) | 9.  | (2) | 10. | (3) | 11. | (2) | 12. | (3) | 13. | (4) | 14. | (4) |
| 15. | (4) | 16. | (1) | 17. | (1) | 18. | (1) | 19. | (4) | 20. | (2) | 21. | (4) |
| 22. | (2) | 23. | (1) | 24. | (1) | 25. | (4) | 26. | (2) | 27. | (3) | 28. | (4) |
| 29. | (2) | 30. | (3) | 31. | (1) | 32. | (2) | 33. | (2) | 34. | (4) | 35. | (2) |
| 36. | (2) | 37. | (3) | 38. | (2) | 39. | (2) | 40. | (3) | 41. | (4) | 42. | (2) |
| 43. | (1) | 44. | (4) | 45. | (2) |     |     |     |     |     |     |     |     |

## SPP Solutions

- Milk contains vitamins A, D and E.
- Melting point depends on symmetry of molecule.
- Boiling point  $\propto$  molecular weight.
- Lighter phenol and aromatic carboxylic acid both reacts with sodium hydroxide, sodium sulphate and calcium chloride. While only aromatic carboxylic acid reacts with sodium bicarbonate. So, they can be separated by sodium bicarbonate.  $\therefore$  option (4) is correct.
- Natural dyes are obtained from plants. e.g. Alizarin.
- Vat dyes are insoluble dyes. e.g. Indigo.
- Aniline yellow, malechite green etc, are the examples of basic dyes.
- The most widely used antipyretic is paracetamol.
- Novalgin is a common analgesic and antipyretic.
- Heroin is a derivative of morphine.
- This is informative question.
- Fleming was discoverer of penicillin.
- Salol is used as intestinal antiseptic.
- For e.g. Acrylic Rubber (solid fuel) and liquid  $N_2O_4$  (liquid oxidiser)
- Steam distillation is not the step of refining.
- 2 to 3% solution of iodine dissolved in alcohol-water mixture is called tincture of iodine which acts as antiseptic.  
Thiourea is soluble in water.
- Lower alcohol are soluble in water.
- Ar-OH dissolve in NaOH and carbonyl group gives +ve test with 2,4-DNP so  $\text{Ph} - \overset{\overset{\text{O}}{\parallel}}{\text{C}} - \text{Ph}$  gives +ve 2,4DNP test.
- With conc. NaOH, amide gives smell of ammonia and aliphatic amides is soluble in  $H_2O$ .
- Aromatic amines are soluble in aq. HCl due to salt formation.

28. Correct orders are
- |                         |   |        |                |
|-------------------------|---|--------|----------------|
| B.P.                    | = | II > I | (para > ortho) |
| H <sub>2</sub> O (sol.) | = | II > I | (para > ortho) |
| Acid strength           | = | II > I | (para > ortho) |



31. Anisol does not form salt with NaOH.
32. If boiling points are closer then best separation is done by fractional distillation.
33. Due to more electronegativity of oxygen than N,  has higher dipole moment than .
34. The relationship between the nucleotide triplets and the amino acids is called a genetic code.
35. Dipole moment of cis isomer > dipole moment of trans isomer and hence water solubility. (cis isomer is greater than trans isomer).
36. The coenzymes are derived from vitamins.
37. The enzyme which hydrolyses cellulose into glucose is emulsin.
38. Chlorophyll has magnesium.
39. Adenine, guanine, cytosine sets of bases is present both in DNA and RNA.
40. Vitamin C is water soluble and antioxidant.
41. Calorific value is in the order Fats > Proteins > Carbohydrates.
42. Uracil base is found only in the nucleotides of RNA
43. The couplings between base units of DNA is through hydrogen bonding.
44. The chemical name of vitamin B<sub>1</sub> is thiamine
45. Due to the more inter nuclear distance between carbon and chlorine, dipole moment ( $\mu = \text{Charge} \times \text{distance}$ ) of CH<sub>3</sub>-Cl is more as compare to CH<sub>3</sub>-F.