CHEMISTRY

BOOKS - BHARATI BHAWAN

CHEMISTRY (HINGLISH)

PRACTICALS

Viva Voce

1. What is the chemical name of common salt ?

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2. What do you understand by solute and solvent ?

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3. What the size of solute particle in a true solution ?

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4. Name any three substances which fromtrue solutions when dissolved in water.

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5. What is the difference between a true solution and a suspension ?

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6. Is a true solution homogeneous or heterogeneous ?

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7. Is a suspension homogeneous ?

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8. Are the particles of the solute present in true solution visible to the naked eye ?

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9. Can you separate the parrticles of a solute from a true solution by the process of filitration ?

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10. How can you separate the particles of a solute from a suspension ?

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11. What is the size of a particle of a solute in a suspension ?

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12. Do the particles of as solute in a colloidal solution go into solution ?

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13. Compare a true solution a suspension and a colloidal solution with respect to their stability.

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14. What type of system do you expect to obtain when finely powdered calcium carbonate is thoroughly stirred with water is a test tube ?

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15. What is colloid ?

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16. What is Tyndall effect ?

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17. What is a mixture ?

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18. List the points of differences between homogeneous and heterogenous mixtures.

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19. (a) What is a mixture? Give to examples of mixtures.

(b) What is meant by (i) homogeneous mixtures, and (ii) heterogeneous mixtures? Give two example os homogeneous mixtures and two of heterogenous mixtures.

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20. What is a compound?

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21. Why is it that iron in a mixture of iron filings and sulphur powder is attracted by a magnet, but iron present in ferrous sulphide (FeS) is not ?

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22. What do you think would happen when a mixture of iron filings and sulphur powder is heated ?

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23. Does sulphur present in ferrous sulphide dissolve in carbon disulphide ?

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24. How can you separate solid particles present in a heap of grains such as wheat ?

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25. What is the colour of a solution of copper sulphate in water ?

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26. Why does the light green colour of a freshly prepared aqueous solution of ferrous

sulphate becomes reddish-brown after some time ?

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27. Give the formula of a crystal of copper sulphate.

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28. What is the valency of Cu in $CuSO_4$?

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29. A copper plate dipped in a solution of ferrous sulphate does not displace iron. Give reason for this.

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30. What happens when an iron nail is dropped in a solution of copper sulphate ?

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31. Give the chemical equation for the reaction the occurs between iron and copper sulphate solution.

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32. Is the reaction between Fe and $CuSO_4$ an oxidation-reduction (redox) reaction ?

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33. How is the reaction $Fe + CuSO_4 \rightarrow FeSO_4 + Cu$ a redox reaction ?

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34. What is the colour of the light produced when magnesium burns in air ?

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35. Name the product formed when magnesium burns in air ?

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36. What is the nature of magnesium oxide ?

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37. What would be the colour of a moistened red litmus paper when it is brought in contact

with the ash produced after the burning of magnesium ribbon in air ?

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38. Magnesium burns in air to form magnesium oxide. Do you know any other compound that is formed along with magnesium oxide ?

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39. What is the valency of magnesium in magnesium oxide ?

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40. Why is magnesium nitride formed when magnesium burns in air ?

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41. What is the valency of nitrogen in magnesium nitride ?

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42. Name the gas produced when zinc dissolves in dilute HCl?

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43. Why does zine displace hydrogen from dilute H_2SO_4 ?

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44. Name the product formed when hydrogen is burnt in air.

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45. What change does zinc undergo when it is reacted with dilute H_2SO_4 ?

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46. Why are sodium and potassium not used to prepare hydrogen gas in the laboratory ?

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47. Why does copper not replace hydrogen from acids?

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48. Name two metals which do not liberate hydrogen from acids.

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49. What happens when dehydrated copper sulphate is allowed to cool in air ?

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50. What is ' blue vitriol ?

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51. Does copper show variable valency ?

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52. Name a compound of copper in which copper shows the valency of 1.

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53. Define a mixture ,Give two points of evidence to show that sugar solution is a mixture

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54. What is sublimation?

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55. Name two compounds which sublime on heating.

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56. Suggest a method other than sublimation by which the components of a mixture of

sugar and camphor can be separated.

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57. Define melting point .

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58. what is boiling point ?

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59. What happens when a liquid boils ?

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60. Why is a delivery tube attached to the flask while determining the boiling points of water ?

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61. What is the valency of Pb in $Pb(NO_3\_(2)$?

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62. What is the valency of nitrate ion in lead nitrate ?

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63. Why does lead chloride get precipitated during the chemical reaction lead nitrate and sodium chloride ?

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64. Mention a reaction , other that the mentioned in the above experiment , which can be carried out of verify the law of conservation of mass.

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65. Why is the mouth of the conical flask corked ?

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Exercise Multiple Choice Questions

1. A true solution is

A. clear and transparent

B. turbid and translucent

C. milky and opaque

D. none of the above

Answer: A

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2. which of the following will give a true solution when dissolved in water ?

A. Fine sand

B. Oil

C. Chalk powder

D. Sugar

Answer: D

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3. when a small quantity of common salt is added to water

A. a suspension is formed

B. a colloidal solution is formed

C. a true solution is formed

D. water becomes trubid

Answer: C

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4. which of the following will give a true solution when dissolved in water ?

A. Fine sand

B. Kerosene

C. Charcoal powder

D. Potash alum

Answer: D

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5. A mixture of chalk powder and water makes a

A. colloidal solution

B. suspension

C. clear solution

D. homogeneous solution

Answer: B

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6. When a true solution is filtered

A. the filtrate obtained is turbid

B. a solid residue is left on the filtered paper

C. the solute gets separated from the solvent

D. the filtrate is as good as the true solution .

Answer: D

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7. A true solution of cane sugar is prepared by dissolving

A. cane sugar in water

B. cane sugar in dilute HCl

C. cane sugar in aqua regia

D. cane sugar in sea water

Answer: A

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8. Which of the following is least soluble in water ?

A. Common salt

B. Glucose

C. Potassium chloride

D. Egg albumen

Answer: D

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9. What is the substance called when it is present in a solution in lesser amount than the amount of the solvent ?

A. Solution

B. Solvent

C. Solute

D. Catalyst

Answer: C

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10. Which of the following is an example of a homogeneous mixture ?

A. Potash alum in water

B. Oil and water

C. Sea water

D. Air

Answer: A

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11. Milk provides an example of a

A. suspension

B. colloidal solution

C. true solution

D. homogeneous mixture

Answer: B

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12. The diameter of colloidal particle ranges from

A. $10^{-7}cm$ and $10^{-5}cm$

B. $10^{-4}cm$ and $10^{-3}cm$

C. $10^{-10}cm$ and $10^{-9}cm$

D. none of the above

Answer: A

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13. Which of the following statements is correct regarding the particles of a solute that get dissolved in a solvent ?

A. They can be separated by filtration .

B. They cannot be seen under a microscope.

C. They settle down at the bottomm of the vessel when the solution is left undisturbed .

D. They scatter a beam of light .

Answer: B

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14. A suspension is

A. homogeneous

B. heterogeneous

C. transparent

D. none of these

Answer: B

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15. The particles of a substance suspended in a suspension can be separated by

A. filtration

B. heating

C. cooling

D. hand-picking

Answer: A

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16. When sodium chloride is dissolved in water the solution obtained is

A. homogeneous

B. heterogeneous

C. non-uniform in composition

D. turbid

Answer: A

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17. Which of the following statements is correct regarding the colloid of starch in water ?

A. It can be separated by filtration .

B. It is transparent and ustable .

C. It shows Tyndall effect.

D. Its particles are visible to the naked eye .

Answer: C

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18. Which of the following pairs can produce a colloidal solution ?

A. Sodium chloride and water

B. Soil and water

C. Glucose and water

D. Egg albumen and water

Answer: D

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19. The phenomenon observed when a beam of light is passed through a colloidal solution is

A. Peltier effect

B. Luminescence

C. Phosphorescence

D. Tyndall effect

Answer: D

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20. A mixture of sand and sugar is an example of a

A. compound

B. mixture

C. homogeneous solution

D. homogeneous mixture

Answer: B

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21. Which of the following is not a homogeneous mixture ?

A. Aqueous solution of sugar

B. Aqueous solution of common salt

C. Oil mixed with water

D. Limewater

Answer: C

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22. When a mixture of iron filings and sulphur is treated with dilute hydrochloric acid,

A. ferric chloride is formed

B. iron filings remains unreacted

C. sulphur dissolves

D. hydrogen gas is produced

Answer: D

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23. Which of the following statements is valid for a mixture ?

A. It is always homogeneous .

B. The components do not have their individuals properties .

C. The components retain their individual properties .

D. none of the above

Answer: C

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24. Which one of the following is an example of a heterogeneous mixture ?

A. Alum and water

B. Lime and water

C. Sodium chloride and water

D. Sand and sugar

Answer: D

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25. What is the mass ratio of iron and sulphur in which they combine to fromiron sulphide ?

A. $2:3$

B. $3:2$

C. $5.6:3.2$

D. $3:3$

Answer: C

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26. Which of the following is a mixture ?

A. An aqueous solution of sugar

B. An aqueous solution of potassium nitrate

C. Air

D. Sulphuric acid

Answer: C

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27. Which of the following is a mixture ?

A. Air

B. Hydrogen sulphide gas

C. Alcohol

D. Limestone

Answer: A

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28. Which of the following do you expect to be formed when iron filings are heated with sulphur powder ?

A. A homogeneous mixture

B. A heterogeneous mixture

C. A compound of iron and sulphur

D. A suspension of iron and sulphur

Answer: C

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29. What happens when a small amount of baking soda is taken in a test tube and some dilute hydrochloric acid is added to it ?

A. A rapid reaction occurs but no gas evolves .

B. A blue-coloured solution is obtained .

C. A brisk effervescence occurs with the evolution of carbon dioxide gas .

D. hydrogen gas is produced

Answer: C

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30. Which of the following compounds is formed when iron reacts with hydrochloric acid ?

A. Ferrous chloride

B. Ferric chloride

C. Iron hydride

D. Limestone

Answer: A

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31. A mixture of iron filings and sulphur is treated with a solvent in which sulphur dissolves. Name the solvent.

A. Water

B. Honey

C. Milk

D. Carbon disulphide

Answer: D

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32. Which of the following melts at a certain temperature ?

A. Gun powder

B. A mixture of iron and sulphur

C. Sodium chloride

D. A mixture and sand and sugar

Answer: C

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33. Which of the following processes is used to separate the components of a mixture of sulphur and charcoal ?

A. Evaporation

B. Distillation

C. Filtration

D. Dissolution in carbon disulphide .

Answer: D

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34. Pick the correct sentence from the following

A. A mixture has a fixed melting point and boiling point .

B. A compound is formed by the combination of two or more elements in

a definite ratio by mass .

C. A mixture is always heterogeneous .

D. A compound does not have a fixed melting point .

Answer: B

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35. Which of the following statements is valid for a compound ?

A. It is heterogeneous throughout .

B. Its components are visible to the naked eye .

C. It melts at a definite temperature .

D. none of the above

Answer: C

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36. Which of the following statements is correct ?

A. In a mixture the component are present in a definite ratio by mass .

B. The boiling point of water is uncertain .

C. A compound is formed by the combination of two or more elemnts in a definite ratio by mass .

D. Gunpowder melts at a particular temperature .

Answer: C

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37. A mixture is made of two substance . Carbon disulphide is added to the mixture. The substance that dissolves may be

A. charcoal

B. sand

C. sulphur

D. sugar

Answer: C

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38. A small amount of soil mixed with pure water. The process you can apply to recover pure water from the mixture is

A. decantation

B. sedimentation

C. Filtration

D. none of these

Answer: C

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39. Which of the following does make a homogeneous mixture ?

A. Fine sand in water

B. Sugar in water

C. soil in water

D. Powdered marble in water .

Answer: B

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40. The colour of copper sulphate crystal is

A. red

B. yellow

C. green

D. blue

Answer: D

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41. Which of the following represents the formula of blue vitriol ?

A. $ZnSO_4$

B. $CuSO_4 \cdot 5H_2O$

C. $MgSO_4 \cdot 6H_2O$

D. $Co(NO_3)_2$

Answer: B

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42. When a copper plate is dipped into a solution of ferrous sulphate , the colour of the solution will change to

A. red

B. green

C. blue

D. none of these

Answer: D

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43. In the reaction , $Cu^{2+} + Fe \rightarrow Cu + Fe^{2+}$ the substance that is oxidized is

A. Cu^{2+}

B. Fe

C. Fe^{2+}

D. Cu

Answer: B

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44. The valency of copper in $CuSO_4 \cdot 5H_2O$ is

A. 1

B. 3

C. 2

D. 0

Answer: C

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45. When magnesium is burnt in oxygen , the compound formed is

A. magnesium peroxide

B. magnesium oxide

C. magnesium nitrate

D. magnesium chloride

Answer: B

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46. When magnesium burn in air , another compound is formed along with magnesium oxide . Name the compound.

A. magnesium peroxide

B. Magnesium nitrite

C. Magnesium nitride

D. none of the above

Answer: C

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47. Buring of a magnesium ribbon in air takes place with

A. a green flame

B. a yellow flame

C. a dazzling white light

D. an orange flame

Answer: C

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48. The reaction between zinc and dilute sulphuric acid is a

A. combination reaction

B. neutralization reaction

C. redox reaction

D. decomposition reaction

Answer: C

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49. The reaction between Zn and dilute H_2SO_4 may be represented by the equation $Zn + 2H^+ \rightarrow Zn^{2+} + H_2$ in this reaction

A. H^+ ion is oxidized

B. H^+ ion is reduced

C. H^+ ion is neutralized

D. H^+ ion remains unchanged

Answer: B

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50. In the reaction , $Zn + H_2SO_4 \rightarrow ZnSO_4 + H_2$, zinc acts as

A. an oxidizing agent

B. a reducing agent

C. catalyst agent

D. none of the above

Answer: B

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51. The metal that does not displace hydrogen from dilute acids is

A. Fe

B. Na

C. Cu

D. Zn

Answer: C

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52. The gas produced when a piece of zinc is made to react with dilute sulphuric acid is

A. sulphur dioxide

B. carbon dioxide

C. hydrogen

D. hydrogen sulphide

Answer: C

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53. Barium sulphate dissolves in which of the following ?

A. Dilute hydrochloric acid

B. Concentrated sulphuric acid

C. Concentrated hydrochloric acid

D. None of these

Answer: D

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54. The colour of the precipitate obtained when an aqueous solution of sodium chloride is treated with silver nitrate solution is

A. black

B. yellowish

C. pink

D. curdy white

Answer: D

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55. Which of the following remains undissolved when treated with water ?

A. Washing soda

B. Common salt

C. Sand

D. Sugar

Answer: C

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56. The insoluble product obtained when a solution of barium chloride is added to a solution of sodium sulphate is

A. barium sulphate

B. barium sulphite

C. sodium nitrate

D. sodium chloride

Answer: A

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57. Common salt can be separated from its aqueous solution by

A. filtration

B. decantation

C. evaporation

D. sublimation

Answer: C

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58. Which of the following pairs make a homogeneous mixture ?

A. Sand and water

B. Soil and water

C. Oil and water

D. Glucose and water

Answer: D

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59. During the determination of the boiling point of water the thermometer is kept

A. dipped in the water

B. a little above the water

C. for above the water

D. out of contact with the water vapour

Answer: B

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60. When water freezes into ice

A. temperature increases

B. temperature decreases

C. heat is absorbed

D. heat is released

Answer: D

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61. The temperature at which a solid gets converted into liquid is called the

A. melting point of the solid

B. boiling point of the solid

C. critical temperature of the solid

D. transition temperature of the solid

Answer: A

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62. The temperature at which a liquid starts boiling is called

A. its melting point

B. its freezing point

C. its boiling point

D. none of the above

Answer: C

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63. The melting point of ice under normal conditions is

A. $100^\circ C$

B. $0^\circ C$

C. $10^\circ C$

D. $-10^\circ C$

Answer: B

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64. The boiling point of water at 1 atmospheric pressure is

A. $100^\circ C$

B. $0^\circ C$

C. $100.5^\circ C$

D. $-5^\circ C$

Answer: A

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65. In which of the following states the internal energy of a substance in the lowest ?

A. Gaseous

B. Liquid

C. Solid

D. None of these

Answer: C

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66. During the melting of ice, temperature .

A. decreases

B. increases

C. remains fixed

D. first increases then decreases

Answer: C

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67. All samples of water contain hydrogen and oxygen in the mass ratio $1:8$. This is in agreement with the law of

A. conservation of mass

B. constant proportions

C. multiple proportions

D. gaseous volumes

Answer: B

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68. The scientist who heated tin in a retort to verify the law of convservation of mass in a chemical reaction

A. Pristley

B. Lavoisier

C. Dalton

D. Thomson

Answer: B

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