

States and Phases of Matter

| Sr | Questions | Answers Choice |
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| 1 | Which of the following halogens has the highest boiling point. | A. <p>I ₂ </p> B. <p>Cl ₂ </p> C. <p>F ₂ </p> D. <p>Br ₂ </p> |
| 2 | Which one of the following effects explains the cooling during the sudden expansion of a gas. | A. <p>Boyle's Effect</p> B. <p>Joule Thomson Effect</p> C. <p>Charles Effect</p> D. <p>Avogadro's law</p> |
| 3 | Which of the following materials is an example of an amorphous solid | A. <p>Glass </p> B. <p>Ice</p> C. <p>Diamond</p> D. <p>Sodium Chloride</p> |
| 4 | Which of the following is essential for hydrogen bond formation. | A. <p>Hydrogen bonded to a metal</p> B. <p>Hydrogen bonded to high electronegative atoms F, O, or N</p> C. <p>Hydrogen bonded to non polar atoms</p> D. <p>Present of pi bond</p> |
| 5 | Liquid crystals exhibit properties. | A. <p>Only like solids</p> B. <p>Only like liquid</p> C. <p>Between solids and liquids</p> D. <p>Unlike solids or liquids</p> |
| 6 | What happens to the volume of water when it freezes. | A. <p>Because F is less electronegative</p> B. <p>Because it is non polar</p> C. <p>Because hydrogen bonding in HF traps the H ⁺ ion</p> D. <p>Because HF is a gas</p> |
| 7 | Which of the following has greater viscosity than water | A. <p>Glycerine</p> B. <p>Hexane</p> C. <p>Acetone</p> D. <p>Methanol</p> |
| 8 | London dispersion forces are the only forces present among. | A. <p>Molecules of water in liquid state</p> B. <p>Atoms of helium in gaseous state at high temperature</p> C. <p>Molecules of solid iodine</p> D. <p>Molecules of hydrogen chloride gas</p> |
| 9 | What type of structure do water molecules form in ice. | A. <p>Linear</p> B. <p>Hexagonal close packed</p> C. <p>Regular tetrahedral</p> D. <p>Irregular amorphous</p> |
| 10 | Which of the following has the lowest boiling point among pentane isomers. | A. <p>2-2 Dimethylpropane</p> B. <p>n -Pentane</p> C. <p>2 Methyl Butane</p> D. <p>Isobutane</p> |
| 11 | When a crystalline solid is broken, it does so along specific planes. These planes are known as. | A. <p>Cleavage planes</p> B. <p>Crystal faces</p> C. <p>Surface planes</p> D. <p>Growth planes</p> |
| 12 | Which of the following is a unique optical property of liquid crystals. | A. <p>They reflect ultraviolet light</p> B. <p>They are always opaque</p> C. <p>They are anisotropic</p> D. <p>They are isotropic</p> |
| 13 | According to Avogadro's Law, volume is directly proportional to. | A. <p>Pressure</p> B. <p>Temperature</p> C. <p>Number of moles</p> D. <p>Density</p> |
| | | A. <p>It becomes needle like</p> |

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| 14 | What happens to the shape of a NaCl crystal when 10% urea is present in its solution. | B. <p>It becomes larger</p> <p>C. <p>It remains the same</p><p>D. <p>It becomes cubic</p></p></p> |
| 15 | Which of the following statements about ideal gases is true. | A. <p>they have strong intermolecular forces</p> <p>B. <p>Their particles have significant volume</p><p>C. <p>Their volume is mainly due to particle size</p><p>D. <p>They have negligible intermolecular forces</p></p></p></p> |
| 16 | Why is water's surface tension so high. | A. <p>Due to its ionic nature</p> <p>B. <p>Because of hydrogen bonding pulling surface molecules downward</p><p>C. <p>Because it has low boiling point</p><p>D. <p>Because water molecules are very large</p></p></p></p> |
| 17 | Why is the compression of solids not possible | A. <p>The particles are fixed in place and cannot move closer</p> <p>B. <p>Their particles are widely spaced</p><p>C. <p>The particles are charged</p><p>D. <p>Solids are made of gases</p></p></p></p> |
| 18 | The expansion of liquids increase with temperature is. | A. <p>Equal to that of gases</p> <p>B. <p>Greater than that of gases</p><p>C. <p>Negligible compared to gasses</p><p>D. <p>Same as solids</p></p></p></p> |
| 19 | What causes the lower compressibility of liquids compared to gases. | A. <p>Absence of intermolecular forces</p> <p>B. <p>Larger molecular size</p><p>C. <p>Stronger intermolecular forces and less empty space</p><p>D. <p>High kinetic energy of molecules</p></p></p></p> |
| 20 | Surface tension of liquid is due to. | A. <p>Inward pull of surface molecule</p> <p>B. <p>Upward pull from the surface</p><p>C. <p>Collision of molecules</p><p>D. <p>Repulsive forces</p></p></p></p> |