



CHEMISTRY

BOOKS - NEET PREVIOUS YEAR (YEARWISE + CHAPTERWISE)

HYDROGEN, ITS COMPOUNDS AND S- BLOCK ELEMENTS

Exercise

1. Ionic mobility of which of the following alkali metal ions is lowest when aqueous solution of their salts are put under an electric field ?

A. Na

B. K

C. Rb

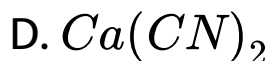
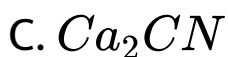
D. Li

Answer: D



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2. The product obtained as a result of a reaction of nitrogen with CaC_2 is



Answer: A



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3. Which of the following statements is false ?

A. Ca^{2+} ions are important in blood clotting

B. Ca^{2+} ions are not important in maintaining the regular beating of the heart

C. Mg^{2+} ions are important in the green parts of plants

D. Mg^{2+} ions form a complex with ATP

Answer: B



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4. Which of the following statements about hydrogen is incorrect ?

A. Hydrogen never acts as cation in ionic salts

B. Hydronium ion, H_3O^+ exists freely in solution

C. Dihydrogen does not act as a reducing agent

D. Hydrogen has three isotopes of which tritium is the most common

Answer: C::D



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5. In context with beryllium, which one of the following statements is incorrect ?

- A. It is rendered passive by nitric acid
- B. its forms Be_2C
- C. Its salts rarely hydrolyse
- D. Its hydride is electron-deficient and polymeric

Answer: C



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6. 'Metals are usually not found as nitrates in their ores'. Out of the following two (I and II) reasons which is//are true for the above observation?

I. Metal nitrates are highly unstable.

II. Metal nitrates are highly soluble in water.

A. I and II are true

B. I and II are false

C. I is false but II is true

D. I is true but II is false

Answer: C



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7. The correct order of the solubility of alkaline- earth metal sulphates in water is :

A. $\text{Mg} > \text{Ca} > \text{Sr} > \text{Ba}$

B. $\text{Ca} > \text{Sr} > \text{Ba} > \text{Mg}$

C. $\text{Sr} > \text{Ca} > \text{Mg} > \text{Ba}$

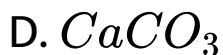
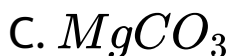
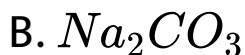
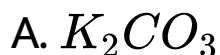
D. $\text{Ba} > \text{Mg} > \text{Sr} > \text{Ca}$

Answer: A



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8. On heating which of the following release CO_2 most easily ?

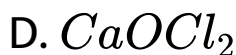
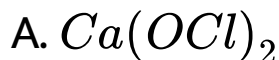


Answer: C



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9. Which one of the following is present as an active ingredient in bleaching powder for bleaching action?

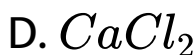
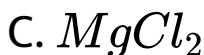


Answer: A



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10. Equimolar solution of the following were prepared in water separately. Which one of the solutions will record the highest pH ?



Answer: B



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11. The alkali metals form salt like hydrides by the direct synthesis at elevated temperature. The thermal stability of these hydrides decreases in which of the following orders ?

A. $\text{CsH} > \text{RbH} > \text{KH} > \text{NaH} > \text{LiH}$

B. $\text{KH} > \text{NaH} > \text{LiH} > \text{CsH} > \text{RbH}$

C. $\text{NaH} > \text{LiH} > \text{KH} > \text{RbH} > \text{CsH}$

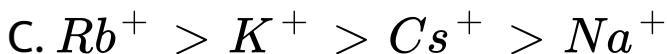
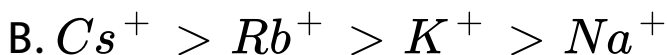
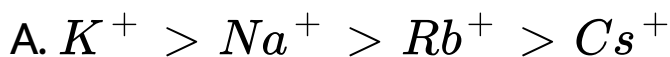
D. $\text{LiH} > \text{NaH} > \text{KH} > \text{RbH} > \text{CsH}$

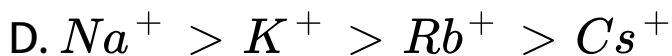
Answer: D



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12. The correct order of mobility of alkali metal ions in aqueous solution is



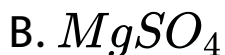


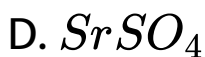
Answer: B



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13. In which of the following is the hydration energy higher than the lattice energy?





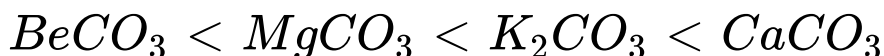
Answer: B



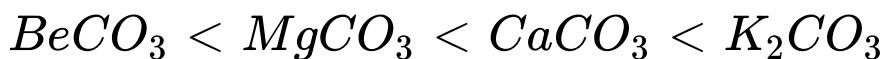
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14. The correct order of increasing thermal stability of K_2CO_3 , $MgCO_3$, $CaCO_3$, and $BeCO_3$ is

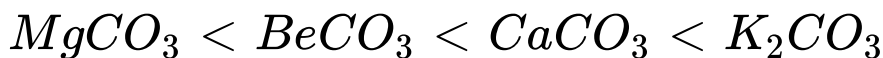
A.



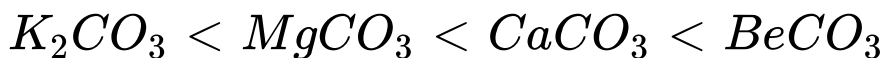
B.



C.



D.

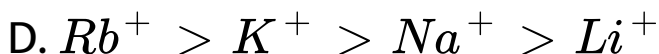
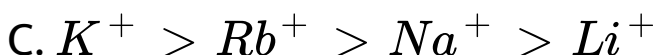
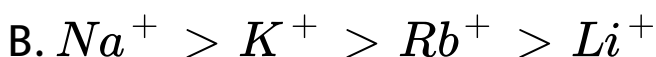
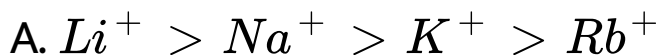


Answer: B



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15. The correct order of mobility of alkali metal ions in aqueous solution is



Answer: D



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16. The structure of H_2O_2 is

- A. planar
- B. non-planar
- C. spherical
- D. linear

Answer: B



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17. Which one is the correct statement with reference to the solubility of $MgSO_4$ in water ?

A. SO_4^{2-} ions mainly contributes towards hydration energy

B. Sizes of Mg^{2+} and SO_4^{2-} are similar

C. Hydration energy of $MgSO_4$ is higher in comparison to its lattice energy

D. Ionic potential (charge/ radius ratio) of Mg^{2+} is very low

Answer: C



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18. Identify the correct statement.

A. Gypsum is obtained by heating plaster of Paris

B. Plastic of Paris can be obtained by hydration of gypsum

C. Plaster of Paris is obtained by partial oxidation of gypsum

D. Gypsum contains a lower percentage of calcium than plaster of Paris

Answer: D



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19. Sodium metal is made by the electrolysis of a molten mixture of about 40 % $NaCl$ and 67 % $CaCl_2$ in a

A. Ca^{2+} can reduce NaCl to Na

B. Ca^{2+} can displace Na from NaCl

C. $CaCl_2$ helps in conduction of electricity

D. this mixture has a lower melting point than NaCl

Answer: D



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20. Which of the following statement is false ?

A. Strontium decomposes water readily than beryllium

B. $BaCO_3$ melts at a higher temperature than $CaCO_3$

C. Barium hydroxide is more soluble in water than $Mg(OH)_2$

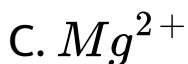
D. Beryllium hydroxide is more basic than barium hydroxide

Answer: D



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21. The metal ion which plays an important role in muscle contraction is

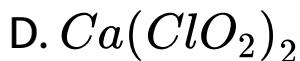
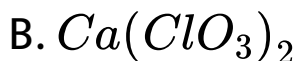
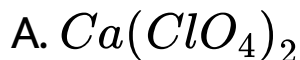


Answer: D



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22. The chemical formula for calcium chlorite is

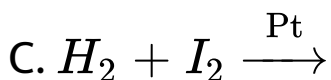
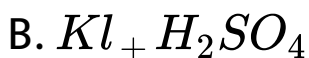
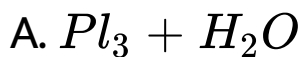


Answer: D



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23. HI can be prepared by all the following methods except

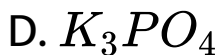
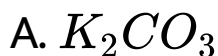


Answer: B



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24. A certain compound (X) when treated with copper sulphate solution yields a brown precipitate. On adding hypo solution the precipitate turns white. The compound is



Answer: B



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25. All the following substances react with water. The pair that gives the same gaseous product is

A. K and CO_3

B. Na and Na_2O_2

C. Ca and CaH_2

D. Ba and BaO_2

Answer: C



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26. The fusion mixture is a mixture of

A. Mixture of $Na_2CO_3 + NaHCO_3$

B. $Na_2CO_3 \cdot 10H_2O$

C. Mixture of $K_2CO_3 + Na_2CO_3$

D. $NaHCO_3$

Answer: C



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27. Which of the following elements is extracted commercially by the electrolysis of an aqueous solution of its compound ?

A. Cl

B. Br

C. Al

D. Na

Answer: D



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28. Which of the following has largest size ?

A. Na

B. Na^+

C. Na^-

D. Can't be predicted

Answer: C



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29. Which one of the following has minimum value of size of cation/anion ratio ?

A. NaCl

B. KCl

C. $MgCl_2$

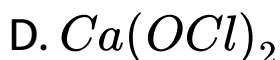
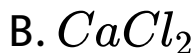
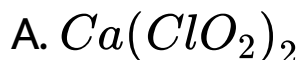
D. CaF_2

Answer: C



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30. When chlorine is passed over dry slaked lime at room temperature, the main reaction product is



Answer: C



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31. Compared with the alkaline earth metals, the alkali metals exhibit

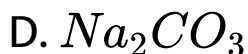
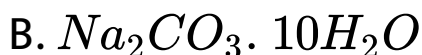
- A. smaller ionic radii
- B. higher boiling points
- C. greater hardness
- D. lower ionisation energies

Answer: D



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32. What is the chemical formula of (a) baking soda, and (b) washing soda?



Answer: B



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33. Which one of the following properties of alkali metals increases in magnitude as the atomic number rises ?

A. ionic radius

B. Melting point

C. Electronegativity

D. First ionisation energy

Answer: A



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34. Which one of the following atoms will have the smallest size ?

A. Mg

B. Na

C. Be

D. Li

Answer: C



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35. Which of the following is treated with chlorine to obtain bleaching powder?

A. dilute solution of $Ca(OH)_2$

B. concentrated solution of $Ca(OH)_2$

C. dry CaO

D. dry slaked lime

Answer: D



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