



CHEMISTRY

BOOKS - DISHA CHEMISTRY (HINGLISH)

S-BLOCK ELEMENTS

Mcqs

1. Which of the following has lowest melting points?

A. Li

B. Na

C. K

D. Cs

Answer: D



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2. Lithium is strongest reducing agent among alkali metal due to which of the following factor?

A. Ionization energy

B. Electron affinity

C. Hydration energy

D. Lattice energy

Answer: C



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3. KO_2 (potassium super oxide) is used in oxygen cylinders in space and submarines because it

A. absorbs CO_2 and increase O_2 content

B. climates moisture

C. absorbs CO_2

D. produces ozone

Answer: A



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4. The alkali metals form salt like hydrides by the direct synthesis at elevated temperature.

The thermal stability of these hydrides decrease in which of the following orders?



Answer: D



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5. Match the columns



A. A -II, B -I, C -III

B. A-III, B-II, C-I

C. A-I: B-III, C-I

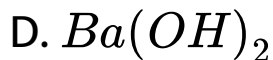
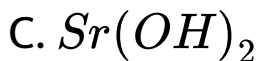
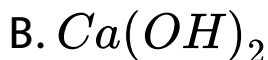
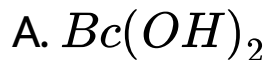
D. A-II, B-III, C-I

Answer: C



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6. Which of the following alkaline earth metal hydroxides is amphoteric in character.



Answer: A



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7. Which of the following statement is incorrect?

A. Pure sodium metal dissolves in liquid ammonia to give blue solution.

B. NaOH reacts with glass to give sodium silicate.

C. Aluminium reacts with excess NaOH to give $Al(OH)_3$

D. $NaHCO_3$ on heating gives Na_2CO_3

Answer: C



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8. Which of the following statement about Na_2O_2 is not correct?

A. It is diamagnetic in nature

B. It is derivative of H_2O_2

C. Na_2O_2 oxidises $Cr^{3+} \rightarrow CrO_4^{2-}$ in

acid medium.

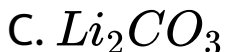
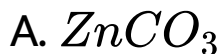
D. It is the super oxide of solution

Answer: D



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9. Which of the following does not form an oxide on heating?



D. Na_2CO_3

Answer: D



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10. Sodium carbonate solution in water is alkaline due to

A. Hydrolysis of Na^+

B. Hydrolysis of CO_3^{2-}

C. hydrolysis of both Na^+ and CO_3^{2-}

ions

D. None of these

Answer: B



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11. A white solid reacts with dil. HCl to give colourless gas that decolourises aqueous bromine. The solid is most likely to be

A. Sodium carbonate

B. sodium chloride

C. sodium acetate

D. sodium thiosulphate

Answer: D



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12. Select the correct statements?

(i). Cs^+ is more highly hydrated than the other alkali metal ions

(ii). Among the alkali metals Li Na K and Rb lithium has the highest melting point

(iii). Among the alkali metals only lithium forms a stable nitride by direct combination with nitrogen.

A. (i), (ii) and (iii)

B. (i) and (ii)

C. (i) and (iii)

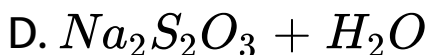
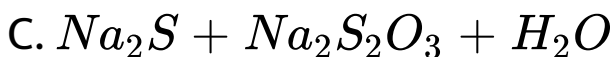
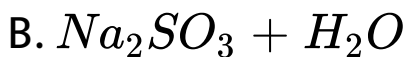
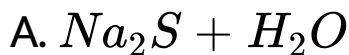
D. (ii) and (iii)

Answer: D



13. When sulphur is heated with NaOH(aq.) .

The compounds formed are



Answer: C



14. The raw materials in Solvay Process are:

A. Na_2CO_3 , $CaCO_2$ and NH_3

B. Na_2SO_4 , $CaCO_3$ and NH_3

C. $NaCl$, NH_3 and $CaCO_3$

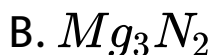
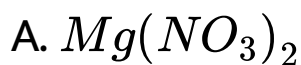
D. $NaOH$, CaO and NH_3

Answer: C



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15. A metal X on heating in nitrogen gas gives Y. Y on treatment with H_2O gives a colourless which passed through $CuSO_4$ solution gives a blue colour Y is



Answer: B



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16. Acidified solution of sodium thiosulphate is unstable because in thiosulphate

A. the sulphur atoms are at unstable oxidation state of +2

B. the two sulphur atoms are at different oxidation states of +6 and -2

C. the S-S bond are unstable bonds

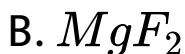
D. sulphur is in zero oxidation state

Answer: B



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17. Which one of the following is least soluble in water?



Answer: B



18. Bleaching powder is obtained by the interaction of chlorine with

- A. dil. Solution of $Ca(OH)_2$
- B. dry CaO
- C. conc. Solution of $Ca(OH)_2$
- D. dry shaked lime

Answer: D



19. Which of the following statement is false?

A. Strontium decomposes water readily than beryllium

B. Barium carbonate melts at higher temperature than calcium carbonate

C. Barium carbonate melts is stable in water than magnesium hydroxide.

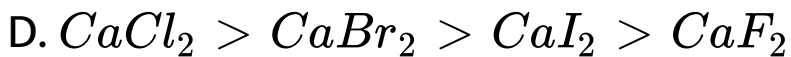
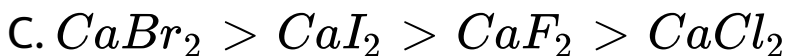
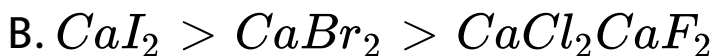
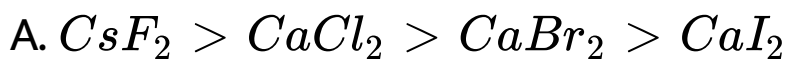
D. Beryllium hydroxide is more basic than barium hydroxide

Answer: D



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20. Melting point of calcium halides decrease in the order



Answer: A



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21. Which of the following statement are found in biological fluids

Na^+ , Mg^{2+} , Ca^{2+} , K^+ , Sr^{2+} , Li^+ and Ba^{2+}

A. Mg^{2+} , Ca^{2+} and Sr^{2+}

B. Na^+ and K^+

C. Na^+ , K^+ , Mg^{2+} and Ca^{2+}

D. Sr^{2+} , Li and Ba^{2+}

Answer: C

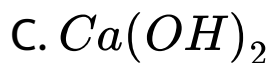


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22. Chemical A is used for water softening to remove temporary hardness. A reacts with Na_2CO_3 to generate caustic soda. When CO_2 is bubbled through A it turns cloudy. What is the chemical formula of A

A. $CaCO_3$

B. CaO



Answer: C



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23. Which of the following statements is incorrect?

A. Alkali metal hydroxide are hygroscopic

B. Dissolution of alkali metal hydroxide is
endothermic

C. Aqueous solution of alkali metal
hydroxides are strongly basic

D. Alkali metal hydroxides form ionic crystals

Answer: B



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24. Which of the following statement(s) is/are correct regarding Li_2CO_3 and Na_2CO_3 ?

A. Sodium salt evolve CO_2 at higher temperature

B. Polarization of Na^+ is lesser than that of Li^+

C. Both are highly stable to heat

D. All of these

Answer: D



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25. Calcitonin and parathyroid hormone regulate concentration of which of the following element in plasma?

A. Calcium

B. Magnesium

C. Sodium

D. Potassium

Answer: A



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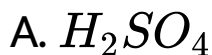
26. Oxygen is obtained from bleaching powder by

- A. the action of dilute acid
- B. the action of alkali
- C. heating it with lime
- D. heating it with cobalt salt

Answer: A



27. Substance which absorbs CO_2 and violently reacts with H_2O with sound is :



Answer: C



28. The electric cookers have coating that protects them against fire. The coating is made of

A. Heavy lead

B. Zinc oxide

C. Magnesium oxide

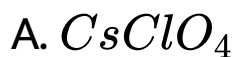
D. Sodium sulphate

Answer: C



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29. Which among of following is most soluble in water?



Answer: C



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30. Which of the following is incorrect?

A. Mg burns in air releasing dazzling light

rich in UV-rays

B. $CaCl_2, 6H_2O$ when mixed with ice gives

freezing mixture

C. Mg cannot form complexes

D. Be can form complexes due to its vary

small size

Answer: C



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31. Electrolysis of fused KCl , $MgCl_2$, $6H_2O$ gives

A. potassium only

B. magnesium only

C. magnesium and chlorine

D. potassium, magnesium and chlorine

Answer: D



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32. Beryllium shows diagonal relationship with aluminium. Which of the following similarity is incorrect?

A. Be forms beryllates and Al forms aluminates

B. $Be(OH)_2$ likes $Al(OH)_3$ is basic

C. Be like Al is rendered passive by HNO_3 .

D. Be_2C like Al_4C_3 yields methane

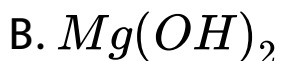
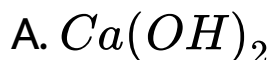
passive on hydrolysis

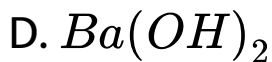
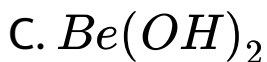
Answer: D



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33. Amongst the following hydroxides, the one which is insoluble is



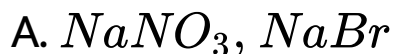


Answer: C



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34. A and B are two salts. A with dil. HCl and A and B with conc. H_2SO_4 react to give reddish brown vapours, hence A and B respectively are:



B. NaBr , NaNO_3

C. NaBr , NaNO_2

D. NaNO_2 , NaBr

Answer: D



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35. In crystals of which one of the following ionic compounds would you expect maximum distance between centres of cations and anions?

A. LiF

B. CsF

C. CsI

D. LiI

Answer: C



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36. Alkaline earth metal compounds are less soluble in water than corresponding alkali metal compounds because former have

A. lower lattice energy

B. higher I.P

C. higher covalent character

D. lower covalent character

Answer: C



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37. The following compounds have been arranged in order of their increasing thermal stabilities. Identify the correct order.

(I) K_2CO_3 (II) $MgCO_3$

(III) $CaCO_3$ (IV) $BeCO_3$

A. $I < II < III < IV$

B. $IV < II < III < I$

C. $IV < II < I < III$

D. $II < IV < III < I$

Answer: B



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38. Covalent radii of atoms varies in range of 72pm to 133pm from F to I while that of noble gases He to Xe varies from 120pm to 220pm.

This is because in case of noble gases

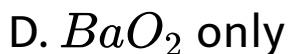
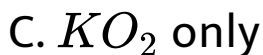
- A. covalent radius is very large
- B. van der waal radius is considered
- C. metallic radii is considered
- D. None of these

Answer: B



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39. Among KO_2 , AlO_2^- , BaO_2 and NO_2^+ , unpaired electrons is present in



Answer: C



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40. A certain metal M is used to prepare an antacid, which is used as a medicine in acidity.

This metal accidentally catches fire which cannot be put out by using CO_2 based extinguishers.

The metal M is

A. Ca

B. Mg

C. C

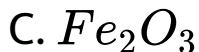
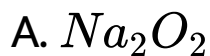
D. All of these

Answer: B



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41. Choose the compounds which does not possess a peroxide group

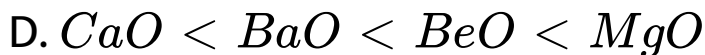
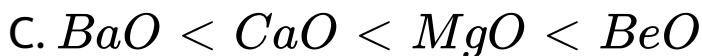
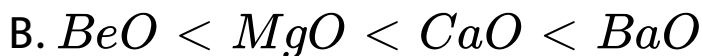
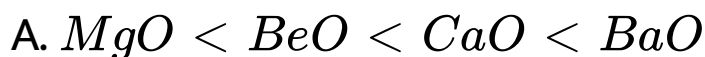


Answer: C



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42. Which of the following has correct increasing basic strength?

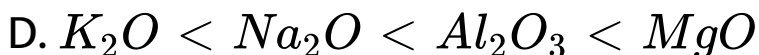
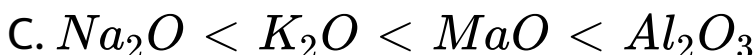
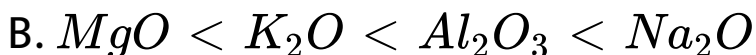
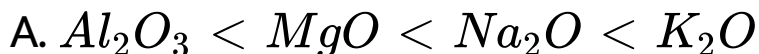


Answer: B



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43. Which of the following orders present the correct sequence of the increasing basic nature of the given oxides?

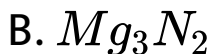
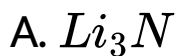


Answer: A



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44. Which liberates ammonia when treated with water?



D. All

Answer: D



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