



CHEMISTRY

BOOKS - BEITIANS

WATER

Formative Worksheet

1. Assertion : Water is regarded as a compound

Reason : Hydrogen is a combustible gas and the oxygen is supporter of combustion, but water is a liquid which extinguishes fire.

A. Both assertion and reason are correct and reason is the correct explanation of assertion.

B. Both assertion and reason are correct but reason is not the correct explanation of assertion.

C. Assertion is correct and reason is incorrect.

D. Assertion is incorrect and reason is correct.

Answer:

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2. Statement A: In case of water, it is possible to separate hydrogen and oxygen by any physical means.

Statement B: Components of a compound cannot be separated by any physical means. However, they can be separated by chemical means.

A. Statement 'A' is correct but 'B' is incorrect.

B. Statements 'A' and 'B' are correct.

C. Statement 'A' is incorrect but 'B' is correct.

D. Both statements are incorrect.

Answer:

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3. Match the following:

Column-I

(Food stuffs)

(A) Egg

(B) Milk

(C) Dry cereals

(D) Green vegetables

Column-II

(Percentage of water)

(p) 85 %

(q) 90 %

(r) 73 %

(s) 3 – 5 %



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4. Match the following:

Column-I

(A) Natural water

(B) Distilled water

(C) Pipe borne water

(D) Chlorinated water

Column-II

(p) Water present in lakes

(q) Water used in swimming pools

(r) Water free from bacteria but may contain esse

(s) Water used in qualitative analysis



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5. Which of the following statements do not define the characteristic property of water, "water is a universal solvent"?

- A. It can dissolve maximum number of compounds.
- B. It has very low dielectric constant.
- C. It has high liquid range.
- D. None of these.

Answer:



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6. Match the following:

Column-I

Column-II

(A) Dams

(P) Coolant

(B) Car radiators

(Q) Hydroelectricity

(C) Distilled water

(R) Preparation of chemicals

(D) Reagent

(S) Soluble injectables



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7. Choose the property given below to state that "water is a liquid".

- A. Water has a definite mass and volume.
- B. Water has a number of free surfaces.
- C. Water has more density.
- D. Water has no definite shape.

Answer:



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8. For all practical purposes, water free from dissolved impurities and pure enough for accurate chemical work can be obtained by:

- A. Crystallization
- B. Distillation
- C. Evaporation
- D. Dissolution

Answer:



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9. Well water is an example of:

- A. Rain water
- B. River water
- C. Surface water
- D. Underground water

Answer:



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10. _____ % of the total water available on the Earth is in oceans. only _____ % of the fresh water is available in _____ the form of lakes, rivers, underground water.

A. 50.4 % 49.6 %

B. 20.4% 80.6%

C. 97.4% 0.01%

D. 90.3% 9.07%

Answer:



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11. Ice _____ water _____ steam

A. $10^{\circ} C$ $90^{\circ} C$

B. $20^{\circ} C$ $80^{\circ} C$

C. $100^{\circ} C$ $0^{\circ} C$

D. $0^{\circ} C$ $100^{\circ} C$

Answer:



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12. Why sea water boils at higher temperature than distilled water ?

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13. Statement (S) : Cooking of food at high altitudes becomes difficult.

Explanation (E) : The atmospheric pressure decreases and the boiling point of water is reduced at higher altitudes.

- A. Statement (S) and explanation (E) are both incorrect
- B. Statement (S) is incorrect
- C. Statement(S) and explanation (E) are both correct
- D. Explanation (E) is incorrect

Answer:

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14. What would have happened if ice were denser than water?

- A. Water bodies would have frozen from the bottom upwards
- B. The water layer would have remained in contact with the cold atmosphere
- C. With in a short time, the entire lake or sea would have frozen
- D. All the above

Answer:



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15. Statement A: The melting point of water decreases with increasing pressure. Statement B : The boiling point of water rises with rising pressure.

- A. Statement A is-correct but B is incorrect
- B. Statements A and B are both correct

C. Statement A is incorrect

D. Statement B is incorrect

Answer:

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16. what is density of water in CGS unit?

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17. what is chemical formula of water ?

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18. Statement (S) : Ice floats on water. Explanation (E) : Water on cooling expands in volume and hence density of ice is lower than that of water

- A. Statement(S) and explanation (E) are both incorrect
- B. Statement (S) is incorrect
- C. Statement(S) and explanation (E) are both correct
- D. Explanation (E) is incorrect

Answer:

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19. Assertion: Ice is lighter than water and floats on it. Reason : The density of water is maximum at 4° C and lower at greater and lower temperatures.

- A. Both assertion and reason are correct and reason is the correct explanation of assertion
- B. Both assertion and reason are correct but reason is not the correct explanation of assertion
- C. Assertion is correct and reason is incorrect

D. Assertion is incorrect and reason is correct

Answer:

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20. In an experiment, a student took pure liquid and started boiling. He noted the boiling temperature of that liquid. After he took sand solution and started boiling and he noted the temperature. Based on the above experiment, what is his observation?

- A. Pure liquid boils at lower temperature than sand solution
- B. Sand solution boils at lower temperature than pure liquid
- C. Both liquid and sand solutions boil at same temperature
- D. Vapour pressure of pure liquid is lower than that of vapour pressure of sand solution.

Answer:

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21. (i) In an experiment, appearance of concentric rings on watch glass against light indicates the presence of _____

(ii) In an experiment, production of boiled off air indicates presence of _____

A. Undissolved solids Dissolved solids

B. Dissolved solids Undissolved gas

C. Dissolved solids Dissolved gas

D. Undissolved solids Dissolved gas

Answer:

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22. Why water getting purified ?

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23. What is percentage of water in human body ?

A. 50 %

B. 60%

C. 75%

D. 30%

Answer:



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24. What is the ground water ?



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25. Assertion : Collection of hydrogen gas that produces from the reaction of sodium with cold water is not possible. Reason : Sodium metal

reacts violently with cold water.

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26. A VI class student was given an experiment, to collect hydrogen gas from the reaction of calcium metal and cold water. He conducted the experiment and collected the hydrogen gas in boiling tube. Which process is involved in collection of hydrogen gas?

- A. Upward displacement of water
- B. Steam distillation
- C. Fractional distillation
- D. Downward displacement of water

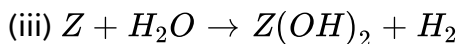
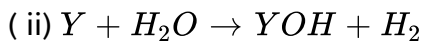
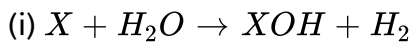
Answer:

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27. Assertion: Reaction of magnesium with steam stops. Reason : Magnesium oxide formed by the action of steam and magnesium metal stick to the surface of metal continuously.

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28. Identify X, Y and Z in the following equations (Note: X, Y and Z are very active metals).



A. X = Mg, Y = Al and Z = Fe

B. X = K, Y = Na and Z = Ca

C. X = Al, Y = Na and Z = Ca

D. X = Mg, Y = Ca and Z = Na

Answer:



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29. State the colour change of water to the following substance and write the formula of the product formed in each case. Colour change Product formed

(i) Anhydrous copper sulphate _____, _____

(ii) Anhydrous Cobalt(ii) chloride _____, _____



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30. Match the following:

Row-I

(A) Respiration by water animals

(B) Photosynthesis by water plants

(C) Formation of shells by shell

Row-II

(p) Soluble salt of calcium carbonate

(q) Dissolved oxygen

(r) Dissolved bearing animals carbon

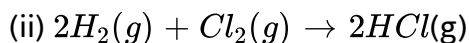


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31. Assertion : Water acts as a catalyst. Reason : White phosphorus does not catch fire on heating in a atmosphere of perfectly dry air. the presence of moist air, it burns to form phosphorous pentoxide.

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32. (i) Pure water is _____ towards litmus.



(iii) Water is very stable compound. If it is heated to _____ 0.6% of it decomposes to hydrogen and oxygen

- A. Basic pressure $0^\circ C$
- B. Netural Moisture $2000^\circ C$
- C. Acidic Moisture $100^\circ C$
- D. Neutral Heat $200^\circ C$

Answer:

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33. Which of the following statements are correct?

- A. When an electric spark is passed through a mixture of hydrogen and oxygen, water is formed
- B. Iron rusts in the presence of moisture
- C. All biochemical reactions takes place in the presence of moisture
- D. All the three statements are correct

Answer:

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34. Statement A: Metals above hydrogen in the reactivity series displace hydrogen from water. Statement B: Metals below hydrogen in the reactivity series do not displace hydrogen from water.

A. 'A' is true, 'B' is false.

B. 'A' is false, 'B' is true.

C. Both 'A' and 'B' are true.

D. Both 'A' and 'B' are false.

Answer:



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35. Statement .A: Formation of water gas is an endothermic reaction.

Statement B: Formation of sodium hydroxide, from the action of water with sodium oxide is an exothermic reaction.

A. 'A' is true, 'B' is false

B. 'A' is false, 'B' is true

C. Both 'A' and 'B' are true

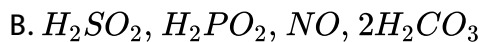
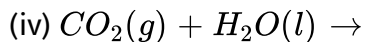
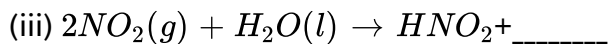
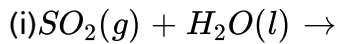
D. Both 'A' and 'B' are false^

Answer:



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36. Complete the following reactions:



Answer:



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37. Match the following:

Column-I

Column-II

(A) $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ (p) Glauber's salt

(B) $\text{Na}_2\text{SO}_4 \cdot 10\text{H}_2\text{O}$ (q) Epsom salt

(C) $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$ (r) Green vitriol

(D) $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$ (s) Blue vitriol

A. $A \rightarrow s, B \rightarrow r, C \rightarrow p, D \rightarrow q$

B. $A \rightarrow r, B \rightarrow p, C \rightarrow q, D \rightarrow s$

C. $A \rightarrow s, B \rightarrow p, C \rightarrow q, D \rightarrow r$

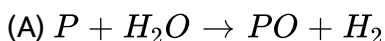
D. $A \rightarrow p, B \rightarrow q, C \rightarrow s, D \rightarrow r$

Answer:

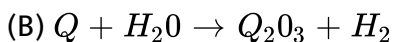


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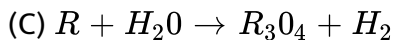
38. Identify the P, Q, R in the following reactions



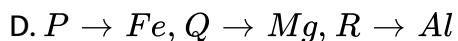
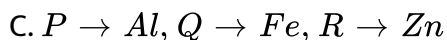
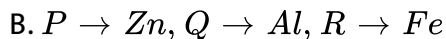
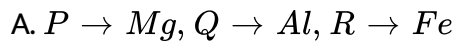
[PO - is an amphoteric oxide]



[Q - is a trivalent metal]



[Reaction of 'R' with steam is reversible]



Answer:



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39. Choose the correct statements.

A. Water from the dams is made available for agricultural activities.

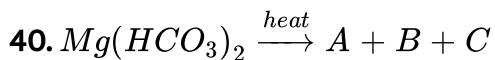
B. Water from the dams is also used for generation of hydel power.

C. It is used for drinking purposes in cities and towns.

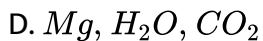
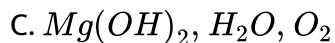
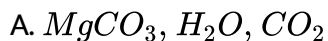
D. All the above statements are correct.

Answer:

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A, B, C represents:



Answer:

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41. Statements) : The water pipes during winter are wrapped with gunny bags or straw.Explanation (E) : Due to this wrapping, the temperature of water within the pipes does not fall below 0° C.

- A. Only statement (S) is correct
- B. Statement (S) and explanation (E) are both incorrect
- C. Statement (S) is correct but explanation (E) is incorrect
- D. Statement (S) and explanation (E) are both correct

Answer:



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42. Statement I : Ice bergs are dangerous to ships.Statement II: 9/10 part of an ice berg is below the sea water and 1/10 above the sea water and we cannot estimate its size below water.

- A. Statements I and II are both true

- B. Statement I is true but II is false
- C. Statements I and II are both false
- D. Statements I is false but II is true

Answer:

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Conceptive Worksheet

1. Assertion: Water can absorb large amount of heat energy. Reason :
Water has a very high specific heat capacity.
- A. Assertion is incorrect
 - B. Assertion is correct but reason is not the correct explanation of
assertion
 - C. Assertion and reason are both incorrect
 - D. Assertion and reason are both correct

Answer:



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2. When a small piece of.....is dropped into a cold water, it reacts violently to form their hydroxides and _____

A. *Ca* , Oxygen gas

B. *Mg* , Hydrogen gas

C. *Na* , Hydrogen gas

D. Violet, $CuSO_4 \cdot 10H_2O$ Green, $CoCl_2 \cdot 2H_2O$

Answer:



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3. The metal that cannot displace hydrogen from dilute *HCl* is:

A. Al

B. Fe

C. Cu

D. Mg

Answer:



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4. Which of the following compounds is formed as a white solid when hot magnesium burns in steam?

A. $Mg(OH)_2$

B. $MgCO_3$

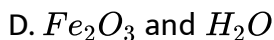
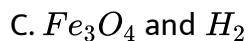
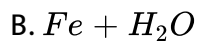
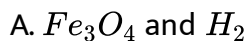
C. MgO

D. Mg_3N_2

Answer:

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5. What is the product formed, when steam is passed over red hot iron?



Answer:

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6. The apparatus used to split up the water molecule by electrolysis is

A. Electrolytic cell

B. Hoffman's voltameter

C. Voltmeter

D. None

Answer:



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7. During the process of electrolysis of water oxygen gas and hydrogen gas is accumulated respectively at the electrodes

A. Anode, Cathode

B. Cathode, Anode

C. Anode, Anode

D. Cathode, Cathode

Answer:



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8. Water is the compound of _____ and _____ respectively.

- A. Hydrogen and oxygen
- B. Hydrogen and hydrogen
- C. Hydrogen and carbon
- D. Oxygen and carbon

Answer:

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9. What are the products formed, when chlorine water is exposed to diffused sunlight?

- A. H_2 and HCl
- B. HCl
- C. HCl and $HClO$
- D. O_2 and HCl

Answer:



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10. Choose the correct statements:

- A. Aluminium is more reactive than zinc
- B. Zinc is less reactive than iron with steam
- C. Iron is more reactive than aluminium and zinc with steam
- D. Aluminium is more reactive than iron and zinc

Answer:



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11. Assertion : Copper reacts faster than that of mercury. Reason : As per the reactivity series, all the metals participate in the reaction.

- A. Both assertion and reason are correct and reason is the correct explanation of assertion
- B. Both assertion and reason are correct but reason is not the correct explanation of assertion
- C. Assertion is correct and reason is incorrect
- D. Assertion is incorrect and reason is correct

Answer:

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12. What is hardness of water ?

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13. State True or False :-

Ice is a good conductor of heat.



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14. Assertion: Ice bergs weighing millions of tons, floats on the surface of sea water. Reason : The density of ice is less than sea water



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15. The famous ship titanic sank because it was hit by an:

- A. Hard rock
- B. Hard coral
- C. Ice berg
- D. Glacier

Answer:



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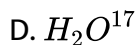
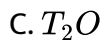
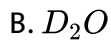
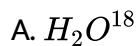
Summative Worksheet

1. Permanent hardness is due to soluble _____ and _____ of calcium and magnesium.

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lit Jee Worksheet

1. The formula of heavy water is :



Answer:

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2. The hardness of water is due to.....metal ions.

A. Ca^{2+} and Na^+

B. Mg^{2+} and K^+

C. Ca^{2+} and Mg^{2+}

D. Zn^{2+} and Ba^{2+}

Answer:



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3. Permutit is :

A. Hydrated sodium aluminium silicate

B. Sodium hexametaphosphate

C. Sodium silicate

D. Sodium meta aluminate

Answer:



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4. When zeolite (hydrated sodium aluminium silicate) is treated with hard water the sodium ions are exchanged with

A. H^+ ions

B. Ca^{2+} ions

C. SO_4^{2-}

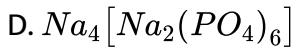
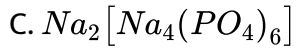
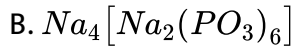
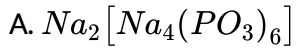
D. OH^-

Answer:



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5. Calgon used as water softner is



Answer:



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