



## CHEMISTRY

### BOOKS - MTG IIT JEE FOUNDATION

### FOOTSTEPS TOWARDS (NEET)

Mcq

1. The incorrect statement about metals is

A. metals have a lustre

B. metals are malleable

C. metals are non-ductile

D. metals form positive ions

**Answer: C**



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2. Which of the following processes is endothermic?

A. Burning of coal

B. Rusting

C. Freezing

D. Melting

**Answer: D**



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3. The solution with the lowest concentration of  $H^+$  ion is

A. pH = 7

B. pH = 8.6

C. pH = 2.0

D. pH = 6.8

**Answer: B**



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4. Number of electrons shared between carbon-carbon atoms in ethene is

A. 8

B. 4

C. 6

D. 2

**Answer: B**



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5. An element M forms an ion  $M^{-}$ . The electronic configuration of this ion is (2,8). Which of the following statements is correct?

A. M is in group 16 and period 2

B. M is in group 17 and period 2

C. M is in group 17 and period 3

D. M is in group 16 and period 3

**Answer: B**



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6. Heating the ore in the presence of excess supply of air below its melting point is called

- A. roasting
- B. calcination
- C. smelting
- D. liquation

**Answer: A**



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7. Which of the following is not a basic condition for combustion?

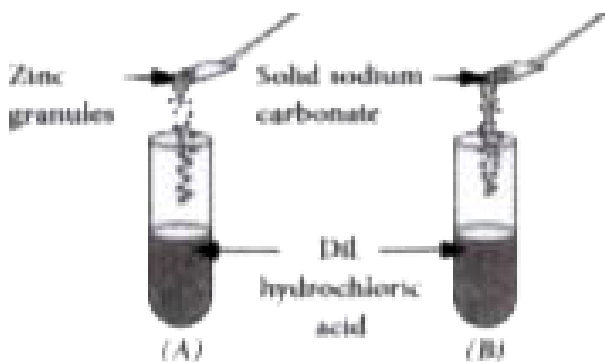
- A. Fuel
- B. Supporter of combustion
- C. Ignition temperature
- D. Presence of nitrogen

**Answer: D**



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8. A student took two test tubes, (A) and (B) containing 2 mL of dilute hydrochloric acid and added zinc granules to test tube (A) and solid sodium carbonate to test tube (B) as shown below:



The correct observation would be

- A. rapid reaction in both the test tubes
- B. slow reaction in (A) and rapid reaction in (B)
- C. rapid reaction in (A) but a slow reaction in (B)



D. no reaction in both the test tubes.

**Answer: A**



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**9.** Which of the following metals is protected even by a layer of its oxide?

A. Copper

B. Silver

C. Iron

D. Aluminium

**Answer: D**



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**10.** When washing soda is treated with hydrochloric acid, it gives off a colourless gas with lots of effervescence. Identify the gas.

A.  $CO_2$

B.  $O_2$

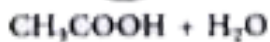
C. CO

D.  $Cl_2$

Answer: A

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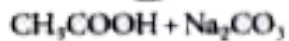
11. In which of the following test tubes, the gas on evolution extinguishes a burning matchstick?



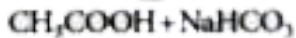
I



II



III



IV

A. III and IV

B. I and II

C. I and III

D. II and IV

**Answer: A**



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**12.** On moving from left to right in periodic table, which of the following properties is increases?

A. Atomic radius

B. Valency

C. Metallic character

D. Atomic number

**Answer: D**



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**13.** One of the following compound is not ionic in nature. This compound is

A. lithium chloride

B. ammonium chloride

C. calcium chloride

D. carbon tetrachloride.

**Answer: D**



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**14.** A student added a few drops of the universal indicator to a solution of dilute hydrochloric acid in the way as shown here.

He observed that the colour of the solution changes

from colourless to



A. red

B. yellow

C. violet

D. green

**Answer: A**



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**15.** The atomic numbers of four elements are given below:

<b>Element</b>	W	X	Y	Z
<b>Atomic number</b>	5	12	15	20

Which of the following pairs of elements belong to the same group of the periodic table?

A. W and X



B. W and Y

C. X and Z

D. Y and Z

**Answer: C**



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**16.** Four solutions labelled as A, B, C and D have pH values 1, 8, 3 and 13 respectively.

Which of the following statements about the given solutions is incorrect?

A. Solution A has higher concentration of hydrogen ions than solution C.

B. Solution B has lower concentration of hydroxyl ions than solution D.

C. Solutions A and B will turn red litmus solution blue.

D. Solution A is highly acidic while solution B is weakly basic.

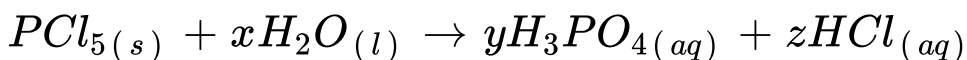
**Answer: C**



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17. Phosphorus(V) chloride dissolves in water to form phosphoric acid,  $H_3PO_4$  and hydrochloric acid.

What are the values of  $x$ ,  $y$  and  $z$  in the balanced equation for this reaction?



A.  $x$   $y$   $z$   
2 1 4

B.  $x$   $y$   $z$   
2 2 5

C.  $x$   $y$   $z$   
4 2 4

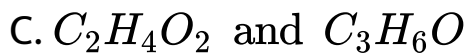
D.  $x$   $y$   $z$   
4 1 5

**Answer: D**



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18. Which of the following pairs of compounds of carbon will undergo combustion as well as addition reactions?



**Answer: D**



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19. Which of the following combination of elements belong to the same group?

A. N, P, As

B. Li, Be, Al

C. Na, Mg, Al

D. O, S, Cl

**Answer: A**



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**20.** A student was given four unknown colourless samples labelled A, B, C and D and asked to test their pH using pH paper. He observed that the colour of pH paper turned to light green, dark red, light orange and dark blue with samples A, B, C, and D respectively. The correct sequence of increasing order of the pH value of samples is

A.  $A < B < C < D$

B.  $A < D < C < B$

C.  $C < B < A < D$

D.  $B < C < A < D$

**Answer: D**



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21. On burning magnesium ribbon in air, it is observed that

- A. a greenish gas is obtained
- B. it burns brightly, giving golden colour
- C. it burns brightly, leaving a blue ash
- D. it burns brightly, leaving behind a white powder

Answer: D

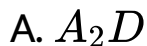


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22. Consider the following table :

Elements	Electronic configuration
A	2, 1
B	2, 4
C	2, 7
D	2, 8, 7

The formula of compound formed between elements A and D is





D.  $AD_3$

**Answer: B**



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**23.** Which of the following is correct order of the reactivity of the metals?

A.  $Zn > Fe > Al > Cu$

B.  $Al > Fe > Zn > Cu$

C.  $Zn > Al > Fe > Cu$

D.  $Al > Zn > Fe > Cu$

**Answer: D**



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**24.** A student takes about 5 mL distilled water in four test tubes marked P, Q, R and S. He dissolves sodium chloride in P, potassium chloride in Q, calcium chloride in R and magnesium chloride in S. After that he adds equal amount of soap solution in each test tube. On shaking the solution of each test tubes he would observe a good amount of lather in the test tubes marked

A. P and Q

B. Q and R

C. R and S

D. P and S

**Answer: A**



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**25.** In the reaction,  $Br_2 + 2I^- \rightarrow 2Br^- + I_2$ , the oxidising agent is

A.  $Br_2$

B.  $I^-$

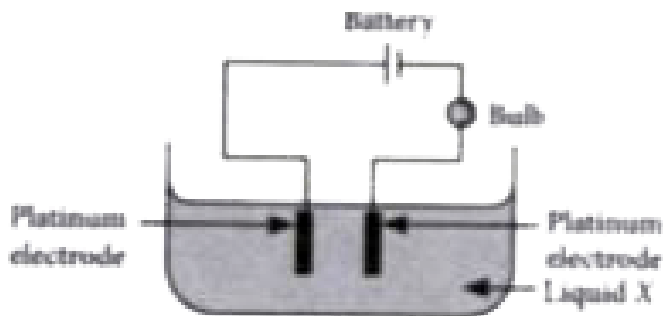
C.  $Br^-$

D.  $I_2$

**Answer: A**

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26. An experiment was carried out using the apparatus shown below:



Liquid 'X' is an aqueous solution of concentration 1

$\text{mol/dm}^3$ . Which substance would cause the bulb to glow the brightest?

A. Ammonia

B. Ethanoic acid

C. Sugar

D. Sulphuric acid

**Answer: D**



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**27.** Which of the following elements is not a metal?

A. Calcium

B. Copper

C. Potassium

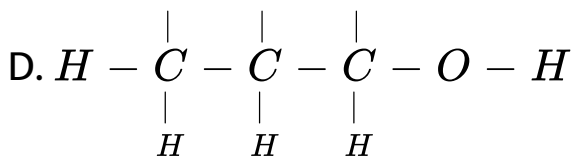
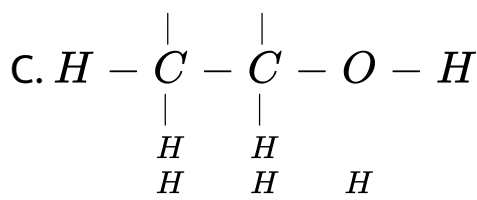
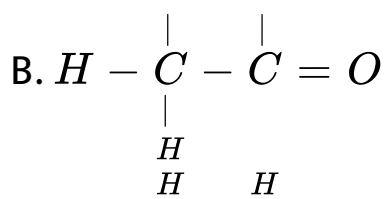
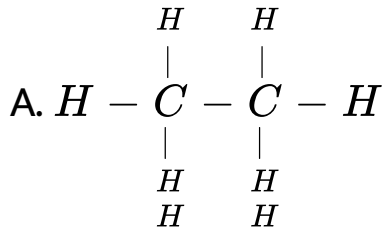
D. Sulphur

**Answer: D**



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**28.** When 1.0 mol of compound Q is burnt in excess oxygen, 2.0 mol of carbon dioxide and 2.0 mol of steam are produced. Which of the following is the structural formula of compound Q?



**Answer: B**



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**29.** Which of the following statements is correct about elements  ${}_{9}^{19}A$  and  ${}_{17}^{37}B$ ?

A. A is more electronegative than B.

B. A forms a positive ion and B forms a negative ion.

C. A and B have the same number of neutrons.

D. A and B have the same number of electrons.

**Answer: A**



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**30.** Observe the given figure and answer the question that follows:





State True (T) or False (F) for the following statements.

(i) It is a photodecomposition reaction.

(ii) Silver chloride turns grey in sunlight to form silver metal.

(iii) It is an exothermic reaction.

(iv) Silver bromide also behaves in the same way and used in black and white photography.

A. (i) (ii) (iii) (iv)  
*T T T T*

- B. (i) (ii) (iii) (iv)  
*T F T F*
- C. (i) (ii) (iii) (iv)  
*T F F T*
- D. (i) (ii) (iii) (iv)  
*T T F T*

**Answer: D**

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**31.** Acids like lactic acid, uric acid which are obtained usually from plants and animals, are known as

A. organic acids

B. inorganic acids

C. oxyacids

D. hydracids

**Answer: A**



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**32.** Arrange the following atoms in the order of increasing atomic radius : N, B, C, S

A. C, S, N, B

B. S, N, B, C

C. C, B, S, N

D. N, C, B, S

**Answer: D**



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**33.** Electrolytic reduction method is used in the extraction of

A. highly electronegative metals

B. highly electropositive metals

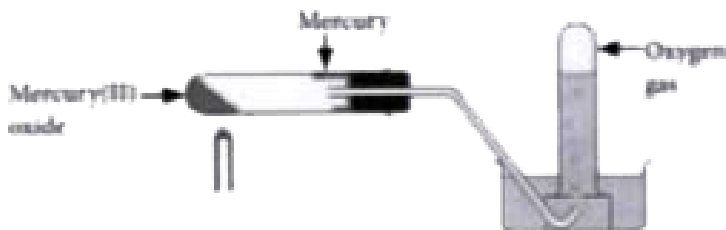
C. transition metals

D. noble metals.

Answer: B

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34. The given diagram represents a \_\_\_\_\_ reaction.



- A. photodecomposition
- B. electrolysis
- C. displacement
- D. thermal decomposition

**Answer: D**



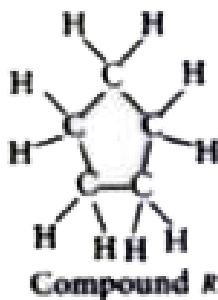
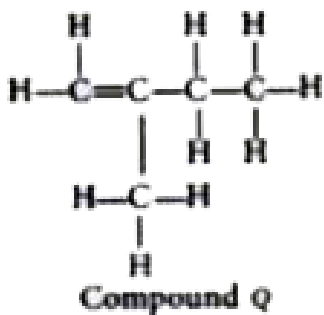
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**35.** Change of  $Na_2CO_3 \cdot 10H_2O$  to  $Na_2CO_3 \cdot H_2O$  on exposure to air is called

- A. efflorescence
- B. effervescence
- C. fluorescence
- D. luminescence

**Answer: A**

36. The structural formulae of compounds Q and R are shown below:



Which statement about compounds Q and R is correct?

- A. They belong to the same homologous series.
- B. They have the same percentage composition by mass.

C. They have the same boiling point.

D. They have different general formulae.

**Answer: B**



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**37.** The liquid non-metal is

A. mercury

B. bromine

C. silicon

D. sulphur.



**Answer: B**



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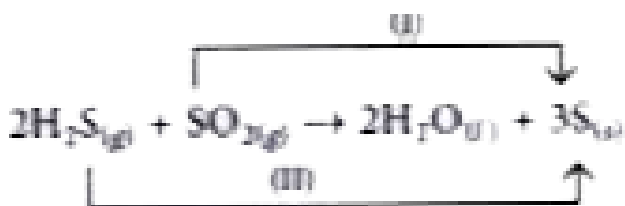
**38.** Which of the following elements will form an acidic oxide?

- A. An element with atomic number 7.
- B. An element with atomic number 3.
- C. An element with atomic number 12.
- D. An element with atomic number 19.

**Answer: A**



39. Consider the following reaction:



(I) and (II) are respectively

- A. oxidation reduction
- B. reduction, oxidation
- C. oxidation, oxidation
- D. reduction, reduction.

**Answer: B**



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40. Moist sodium bicarbonate was placed on a strip of pH paper. The colour of the strip

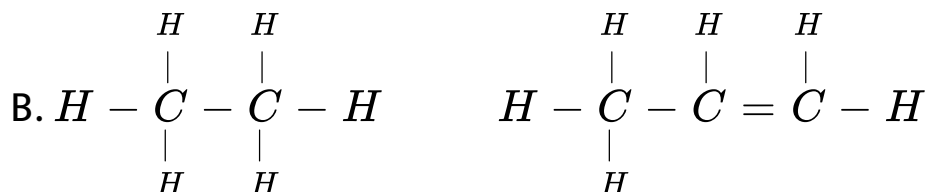
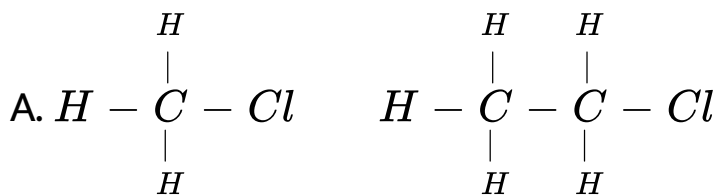
- A. turned blue
- B. did not change
- C. turned green
- D. turned light pink

**Answer: A**

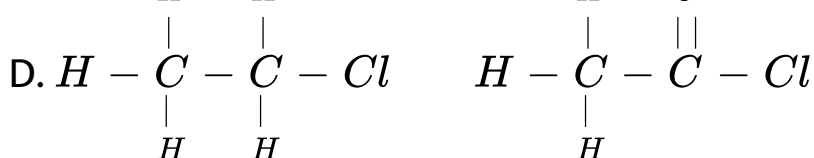
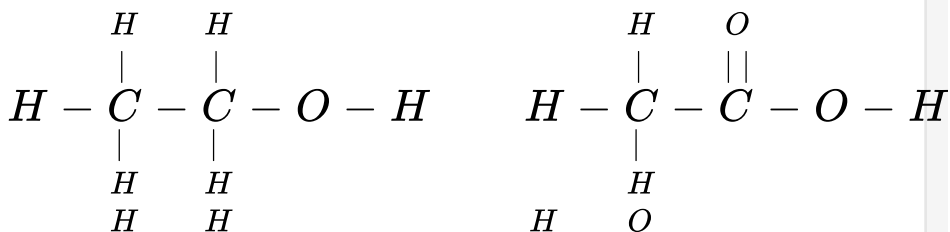


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41. Which of the following pairs of compounds have similar chemical properties?



C.



Answer: A



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42. Which one of the following types of ores can be converted into oxide by calcination?

- A. Halide ores
- B. Carbonate ores
- C. Fluoride ores
- D. All of these

**Answer: B**



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43. Which of the following processes does not involve either oxidation or reduction?

A. Formation of slaked lime from quick lime

B. Heating mercuric oxide

C. Formation of manganese chloride from manganese oxide

D. Formation of zinc from zinc blende

**Answer: A**



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**44.** In a solution of  $\text{pH} = 5$ , more acid is added in order to reduce the  $\text{pH} = 2$ . The increase in hydrogen ions concentration is

A. 100 times

B. 1000 times

C. 3 times

D. 5 times.

**Answer: B**



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45. Which of the following statements is not correct?

A. A common functional group is present in different members of a homologous series.

B. Two consecutive members of a homologous series differ by a  $-CH_3$  group.

C. The members of a homologous series can be represented by one general formula.

D. Different members of a homologous series have similar chemical properties.



**Answer: B**



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