



مدونة المناهج السعودية

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الموقع التعليمي لجميع المراحل الدراسية

في المملكة العربية السعودية

Exam 2

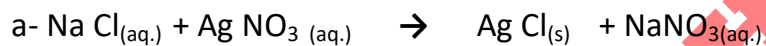
1. Which of the following has the most bond strength (energy) ?

- a- N-N b- N \equiv N c- N=N d- N-H

2. Which of the following bonds have the least bond length?

- a- N-Cl b- N-Br c- N-I d- N-F

3. Which of the following is redox reaction?



4. Electronegativity from left to right within a period and

from top to bottom within a group.

- a- decreases, increases b- increases, increases
c- stays the same, increases d- increases, decreases

5. The bond between Br and Br in Br_2 is

- a- a pure covalent b- a polar covalent c- an ionic d- non

6. The type of bonding between Sr and O in SrO is

a- ionic bonding

b- covalent bonding

c- metallic bonding

d- none bonding

7. The molarity M of a solution that contain 3.65 g of HCl in 2.00 Liters of solution is :

a-5.0 M

b- 0.50 M

c-0.05 M

d- 0.005 M

$\text{mass} = 3.65 \text{ g} \quad , \quad v = 2 \text{ L} \quad , \quad M_m = 36.5 \quad , \quad M = ?? \text{ M}$
$M = \frac{\text{mass}}{V \cdot M_m}$
$M = \frac{3.65}{2 \times 36.5} = 0.05 \text{ M}$

8 . For the given reaction, which of the following is reducing agent?

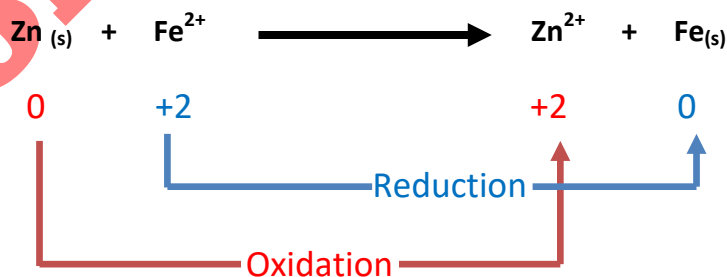


a- Fe

b- Zn

c- Fe²⁺

d- Zn²⁺



9. All of the following are polar covalent, except,

a- HCl

b- H₂O

c- Cl₂

d- NO₂

10. The oxidation state of Cr and O in Cr O₄²⁻ are

a- +3, -2

b- +6, -2

c- -6, +2

d- -3, +1

11. Which one of the following is a weak acid?

a- HNO₃

b- HCl

c- HI

d- HF

12. When aqueous solution of are mixed precipitate forms .

a - Ni Br₂ and AgNO₃

b- Na I and K Br

c- K₂SO₄ and CrCl₃

d - KOH and Ba Cl₂

13. Which combination will produce a precipitate?

a- Pb(NO₃)₂ (aq) and HCl (aq)

b- Cu(NO₃)₂ (aq) and KC₂H₃O₂ (aq)

c- KOH (aq) and HNO₃ (aq)

d- AgC₂H₃O₂ (aq) and HC₂H₃O₂ (aq)

14-Oxidation is

a- gaining of electrons and increasing the oxidation state

b- losing of electrons and increasing the oxidation state

c- losing of positive charges

d- gaining of negative charge

15 . Reduction is

- a- gaining of electrons and decreasing the oxidation state
- b- losing of electrons and increasing the oxidation state
- c- losing of positive charges
- d- gaining of negative charges

16. A solution that conducts electricity very well is known as.....

- a- Non electrolyte
- b- Electrolyte
- c- Weak electrolyte
- d- Solvent

17. Which of the following is considered a strong electrolyte?

- a- NH₄NO₃
- b- C₁₂H₂₂O₁₂
- c- PbCl₂
- d- HC₂H₃O₂

الأملح الأيونية الذائبة في الماء يوصل الكهرباء .

18. Which of the following is weak electrolyte?

- a- HCl
- b- pure H₂O
- c- Na Cl
- d- sugar

19. Which one of the following is a diprotic acid ?

- a- nitric acid
- b- chloric acid
- c- phosphoric acid
- d- sulfuric acid

20. What is the volume (in ml) of 0.315 M Na OH solution contains 6.22 g of Na OH ?

- a) 494 ml b) 0.494 ml c) 6 ml d) 389 ml

$\text{mass} = 6.22 \text{ g} \quad , \quad v = ??? \text{ Liter} \quad ,$ $M_m = 40 \quad , \quad M = 0.315 \text{ M}$
$M = \frac{\text{mass}}{V \cdot M_m}$
$V = \frac{6.22}{0.315 \times 40} = 0.4936 \text{ liter} \times 1000 = 493.6 \text{ mL}$

21. What volume does need to dilute 3000 ml of 0.5 M KOH solution to a 10 M stock solution?

- a- 150 ml b- 1.5 L c- 1500 ml d- 15 L

$M_1 = 10 \text{ M} \quad , \quad V_1 = ?? \text{ L} \quad , \quad M_2 = 0.5 \text{ M} \quad , \quad V_2 = 3000 \text{ mL}$
$M_1 V_1 = M_2 V_2$
$10 \times V_1 = 0.5 \times 3000$
$V_1 = 150 \text{ mL}$

22. Which one of the following is a correct expression for molarity?

- a- mol solute/L solvent
 b- mol solute/mL solvent
 c- mol solute/mL solution
 d- mol solute/L of solution

23. The Oxygen consider as :

a- molecular compound

b- molecular element

c- ionic compound

d- atomic element

24. Nitrogen content in fertilizers is very important for protein synthesis in plants,
the mass% composition of nitrogen in $\text{CO}(\text{NH}_2)_2$ is

a- 56.67%

b- 46.67%

c- 26.67%

d- 36.67%

$$\% \text{العنصر} = \frac{\text{الوزن الذري للعنصر} \times \text{عدد ذرته}}{\text{الوزن الجزيء للمركب}} \times 100$$

$$\text{N \%} = \frac{(2 \times 14)}{(12 \times 1) + (16 \times 1) + (14 \times 2) + (1 \times 4)} \times 100 = 46.6 \%$$

24. For the reaction shown, calculate the theoretical yield of the product (in moles)

for 4 mol Ti and 4 mol Cl₂



a) 4 mol

(b) 8 mol

(c) 2 mol

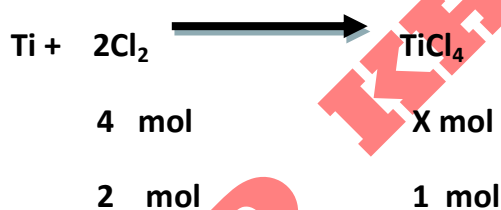
(d) 6 mol

نحسب لكل من المتفاعلات خارج قسمة (عدد المولات المعطاة / عدد مولات المعادلة).

عدد مولات المتفاعل الاول في التفاعل (Ti) $4 = \frac{4}{1}$

عدد مولات المتفاعل الثاني في التفاعل (Cl₂) $2 = \frac{4}{2}$

المادة ذات الناتج الأقل تكون هي الكاشف المحدد. ✓ الكاشف المحدد هو Cl₂



$$X = 2 \text{ mol}$$

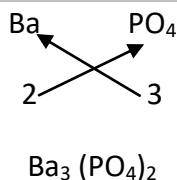
25. The formula of barium phosphate is

a- Ba₃(PO₄)₂

b- Ba₃(PO₄)₂

c- Ba₃PO₄

d- BaPO₄



26. Calculate the theoretical yield in gram of Fe S formed when 9.42 g of Fe

with Fe react with 8.50 S :



a-17.9 g

b- 87.9 g

c-26.0g

d-14.8

نحسب لكل من المتفاعلات خارج قسمة (عدد الجرامات المعطاة / عدد الجرامات المعادلة):

$$1. \text{ عدد جرامات المتفاعل الاول في التفاعل (Fe) : } \frac{9.42}{56} = 0.168$$

$$2. \text{ عدد جرامات المتفاعل الثاني في التفاعل (S) : } \frac{8.5}{32} = 0.262$$

المادة ذات الناتج الأقل تكون هي الكاشف المحدد. ✓ الكاشف المحدد هو Fe

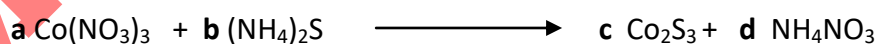


$$9.42 \text{ g} \qquad \qquad \qquad \text{X g}$$

$$56 \text{ g} \quad \text{تجاهل} \qquad \qquad \qquad 88 \text{ g}$$

$$\text{X} = 14.8 \text{ g}$$

27. The reaction coefficients of the given reaction are

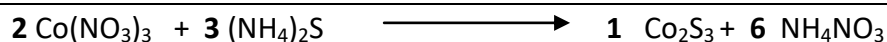


a- 2, 1, 2, 6

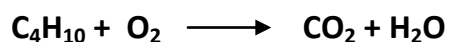
b- 2, 1, 3, 3

c- 3, 2, 1, 3

d- 2, 3, 1, 6



28. Balance the following equation then what is the coefficient for H₂O IN balanced equation ?



a-9

b-5

c-10

d-13

المطلوب معامل الماء .

وزن المعادلة

$$\text{C}_4\text{H}_{10} + 7.5 \text{O}_2 \longrightarrow 4 \text{CO}_2 + 5 \text{H}_2\text{O}$$

نضرب العوامل 2x لجعل العوامل أعداد صحيحة.

$$2\text{C}_4\text{H}_{10} + \underline{13} \text{O}_2 \longrightarrow \underline{8} \text{CO}_2 + \underline{10} \text{H}_2\text{O}$$

29- The xenon gas is considered as

a- molecular compound

b- molecular element

c- ionic compound

d- atomic element

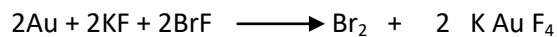
30. treatment of gold metal with BrF₃ and KF produce Br₂ and K Au F₄ as salt of gold reducing agent

a- Glodb- BrF₃

c- KF

d- K Au F₄

الحل نكون معادله



0

+3