



مدونة المناهج السعودية

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الموقع التعليمي لجميع المراحل الدراسية

في المملكة العربية السعودية

## Chemistry Test

### Gram Atomic Mass (g/mol):

Hydrogen (H) = 1.008

Oxygen (O) = 16.00

Sulfur (S) = 32.06

Chromium (Cr) = 51.99

Iodine (I) = 126.9

Barium (Ba) = 137.3

Tungsten (W) = 183.9

### Atomic Number:

Hydrogen (H) = 1

Carbon (C) = 6

Nitrogen (N) = 7

Oxygen (O) = 8

Chlorine (Cl) = 17

Nickel (Ni) = 28

Zinc (Zn) = 30

### Physical Constants:

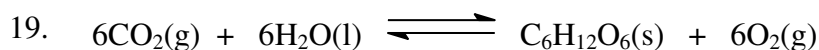
Ion product constant for water ( $K_w$ ) at 25 °C =  $1.00 \times 10^{-14}$

Avogadro's number ( $N_A$ ) =  $6.02 \times 10^{23}$  / mole

- Barium hydride ( $\text{BaH}_2$ ) reacts with water ( $\text{H}_2\text{O}$ ) to produce:
  - Acidic solution
  - Basic solution
  - Buffer solution
  - Neutral solution
- When the physical state of a compound is changed from liquid to solid, the process is called:
  - Sublimation
  - Deposition
  - Condensation
  - Freezing
- The solution which does not conduct electric current is classified as:
  - Electrolyte
  - Colloid
  - Non-electrolyte
  - Suspension (emulsion)
- The following ions:  ${}^{54}_{26}\text{Fe}^{2+}$  and  ${}^{48}_{22}\text{Ti}^{2-}$ , contain the same number of:
  - Protons
  - Electrons
  - Neutrons
  - $\alpha$  – particles
- Phenolphthalein indicator is used in the titration of strong acid with strong base to detect:
  - Boiling point
  - End point
  - Freezing point
  - Equivalence point
- Which of the following represents a pair of isotopes?
  - ${}^{35}_{17}\text{Cl}$  and  ${}^{37}_{17}\text{Cl}$
  - ${}^{206}_{82}\text{Pb}$  and  ${}^{106}_{46}\text{Pd}$
  - ${}^{16}_8\text{O}$  and  ${}^{31}_{15}\text{P}$
  - ${}^{11}_5\text{B}$  and  ${}^{209}_{83}\text{Bi}$
- Which of the following anions contains **seven** oxygen atoms?
  - Permanganate
  - Phosphate
  - Dichromate
  - Hydrogen carbonate
- On heating solid potassium chlorate ( $\text{KClO}_3$ ), solid potassium chloride ( $\text{KCl}$ ) and oxygen gas ( $\text{O}_2$ ) are formed. This reaction is called:
  - Combination
  - Combustion
  - Neutralization
  - Decomposition
- Benzoic acid ( $\text{C}_6\text{H}_5\text{CO}_2\text{H}$ ) is considered as:
  - Hexaprotic acid
  - Pentaprotic acid
  - Monoprotic acid
  - Diprotic acid

10. The last occupied energy sublevel in nickel ion ( $\text{Ni}^{2+}$ ) is:
- a. 4s  
b. 3p  
c. 4f  
d. 3d
11. The bond existing between the two carbon atoms in the acetylene molecule ( $\text{C}_2\text{H}_2$ ) is a:
- a. Single covalent bond  
b. Double covalent bond  
c. Triple covalent bond  
d. Ionic bond
12. The **coordinate covalent bond** between two atoms is formed by:
- a. Sharing three pairs of electrons between the two atoms  
b. Sharing two pairs of electrons between the two atoms  
c. Sharing one pair of electrons between two atoms  
d. Sharing a pair of electrons provided by one of the two atoms
13. Which of the following compounds is an **ionic** compound?
- a. HCl  
b.  $\text{PCl}_3$   
c. CO  
d. ZnS
14. In which of the following pairs of substances do the underlined atoms in each pair have the same **oxidation number**?
- a.  $\underline{\text{V}}_2\text{O}_5$  and  $\text{K}_3\underline{\text{P}}\text{O}_4$   
b.  $\underline{\text{Ti}}\text{Cl}_4$  and  $\underline{\text{Cr}}_2\text{O}_3$   
c.  $\underline{\text{Mn}}_2\text{O}_3$  and  $\text{K}\underline{\text{Mn}}\text{O}_4$   
d.  $\text{Ag}\underline{\text{Cl}}\text{O}_3$  and  $\underline{\text{S}}\text{O}_3$
15. If the solubility of sugar, at  $25^\circ\text{C}$ , is 211 g per 100 g water, then a solution containing 200 g of sugar in 100 g of water at the same temperature would be described as.....solution.
- a. unsaturated  
b. saturated  
c. Supersaturated  
d. Buffered
16. Which of the following statements about the organic compounds ( $\text{CH}_3\text{CH}_2\text{CH}_2\text{NH}_2$ ) and ( $\text{C}_6\text{H}_5\text{NH}_2$ ) is **correct**?
- a. Both are aromatic amines  
b. Both have nitro group  
c. Both are aliphatic amines  
d. Both have amino group
17.  $m\text{K}_2\text{CrO}_4(\text{aq}) + n\text{Al}(\text{NO}_3)_3(\text{aq}) \longrightarrow p\text{Al}_2(\text{CrO}_4)_3(\text{aq}) + q\text{KNO}_3(\text{aq})$
- After balancing the above chemical equation, the coefficient (**q**) before  $\text{KNO}_3$  is:
- a. 9  
b. 6  
c. 3  
d. 2

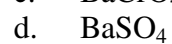
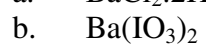
18. A **buffer solution** which resists a change in pH can be prepared by mixing two aqueous solutions of:
- Strong acid and one of its salt
  - Weak base and one of its salt
  - Strong base and weak base
  - Strong acid and water



What is the equilibrium constant expression for the above equilibrium system?

- $K = P_{\text{O}_2}^6 / P_{\text{CO}_2}^6$
  - $K = 1 / P_{\text{O}_2}^6 P_{\text{CO}_2}^6$
  - $K = P_{\text{CO}_2}^6 / P_{\text{O}_2}^6$
  - $K = P_{\text{O}_2}^6 / P_{\text{CO}_2}^6 P_{\text{H}_2\text{O}}^6$
20. What is the molar solubility of a saturated solution of copper(II) hydroxide ( $\text{Cu}(\text{OH})_2$ ) if the value of the solubility product constant ( $K_{\text{sp}}$ ) is equal to  $4.80 \times 10^{-20}$ ?
- $4.80 \times 10^{-20}$  mole / liter
  - $2.29 \times 10^{-7}$  mole / liter
  - $4.58 \times 10^{-7}$  mole / liter
  - $3.37 \times 10^6$  mole / liter
21. What is the total mass of water you would obtain when you add  $14.50 \text{ cm}^3$  of water to  $0.3500$  liter of water?  
[density of water =  $0.9980 \text{ g / cm}^3$ ]
- 14.47 g
  - 0.9980 g
  - 0.3493 g
  - 363.8 g
22. Solution (A) has a pH of 12.00 and solution (B) has a pH of 8.00. The hydrogen ion concentration  $[\text{H}^+]$  of solution (B) is .....times that of solution(A).
- 3000
  - 4.000
  - 1.500
  - 10000
23. The hydrochloric acid (HCl) in the gastric juice has a pH of 2.00. How many  $\text{cm}^3$  of  $0.5 \text{ M}$  of sodium carbonate ( $\text{Na}_2\text{CO}_3$ ) aqueous solution will neutralize  $100 \text{ cm}^3$  of gastric juice?
- $$\text{Na}_2\text{CO}_3(\text{aq}) + 2\text{HCl}(\text{aq}) \longrightarrow 2\text{NaCl}(\text{aq}) + \text{CO}_2(\text{g}) + \text{H}_2\text{O}(\text{l})$$
- $10 \text{ cm}^3$
  - $100 \text{ cm}^3$
  - $50 \text{ cm}^3$
  - $1000 \text{ cm}^3$

24. Which of the following compounds has a molar mass equal to 487.1 g / mole?



25. What is the mass of one atom of tungsten (W)?

a.  $3.05 \times 10^{-22} \text{ g}$

c.  $6.02 \times 10^{23} \text{ g}$

b.  $3.27 \times 10^{21} \text{ g}$

d.  $1.81 \times 10^{22} \text{ g}$



Answers - English Exam		إجابات اختبار اللغة الانجليزية							
Q's#	Answers	Q's#	Answers	Q's#	Answers	Q's#	Answers	Q's#	Answers
1 -	A B C D	19 -	A B C D	37 -	A B C D	55 -	A B C D	73 -	A B C D
2 -	A B C D	20 -	A B C D	38 -	A B C D	56 -	A B C D	74 -	A B C D
3 -	A B C D	21 -	A B C D	39 -	A B C D	57 -	A B C D	75 -	A B C D
4 -	A B C D	22 -	A B C D	40 -	A B C D	58 -	A B C D	76 -	A B C D
5 -	A B C D	23 -	A B C D	41 -	A B C D	59 -	A B C D	77 -	A B C D
6 -	A B C D	24 -	A B C D	42 -	A B C D	60 -	A B C D	78 -	A B C D
7 -	A B C D	25 -	A B C D	43 -	A B C D	61 -	A B C D	79 -	A B C D
8 -	A B C D	26 -	A B C D	44 -	A B C D	62 -	A B C D	80 -	A B C D
9 -	A B C D	27 -	A B C D	45 -	A B C D	63 -	A B C D	81 -	A B C D
10 -	A B C D	28 -	A B C D	46 -	A B C D	64 -	A B C D	82 -	A B C D
11 -	A B C D	29 -	A B C D	47 -	A B C D	65 -	A B C D	83 -	A B C D
12 -	A B C D	30 -	A B C D	48 -	A B C D	66 -	A B C D	84 -	A B C D
13 -	A B C D	31 -	A B C D	49 -	A B C D	67 -	A B C D	85 -	A B C D
14 -	A B C D	32 -	A B C D	50 -	A B C D	68 -	A B C D		
15 -	A B C D	33 -	A B C D	51 -	A B C D	69 -	A B C D		
16 -	A B C D	34 -	A B C D	52 -	A B C D	70 -	A B C D		
17 -	A B C D	35 -	A B C D	53 -	A B C D	71 -	A B C D		
18 -	A B C D	36 -	A B C D	54 -	A B C D	72 -	A B C D		

Answers - Mathematics Exam		إجابات اختبار الرياضيات					
Q's#	Answers	Q's#	Answers	Q's#	Answers	Q's#	Answers
1 -	A B C D	6 -	A B C D	11 -	A B C D	16 -	A B C D
2 -	A B C D	7 -	A B C D	12 -	A B C D	17 -	A B C D
3 -	A B C D	8 -	A B C D	13 -	A B C D	18 -	A B C D
4 -	A B C D	9 -	A B C D	14 -	A B C D	19 -	A B C D
5 -	A B C D	10 -	A B C D	15 -	A B C D	20 -	A B C D

Answers - Chemistry Exam		إجابات اختبار الكيمياء							
Q's#	Answers	Q's#	Answers	Q's#	Answers	Q's#	Answers		
1 -	A B C D	6 -	A B C D	11 -	A B C D	16 -	A B C D	21 -	A B C D
2 -	A B C D	7 -	A B C D	12 -	A B C D	17 -	A B C D	22 -	A B C D
3 -	A B C D	8 -	A B C D	13 -	A B C D	18 -	A B C D	23 -	A B C D
4 -	A B C D	9 -	A B C D	14 -	A B C D	19 -	A B C D	24 -	A B C D
5 -	A B C D	10 -	A B C D	15 -	A B C D	20 -	A B C D	25 -	A B C D

Answers - Arabic Exam		إجابات اختبار اللغة العربية									
Q's#	Answers	Q's#	Answers	Q's#	Answers	Q's#	Answers	Q's#	Answers		
1 -	A B C D	11 -	A B C D	21 -	A B C D	31 -	A B C D	41 -	A B C D	51 -	A B C D
2 -	A B C D	12 -	A B C D	22 -	A B C D	32 -	A B C D	42 -	A B C D	52 -	A B C D
3 -	A B C D	13 -	A B C D	23 -	A B C D	33 -	A B C D	43 -	A B C D	53 -	A B C D
4 -	A B C D	14 -	A B C D	24 -	A B C D	34 -	A B C D	44 -	A B C D	54 -	A B C D
5 -	A B C D	15 -	A B C D	25 -	A B C D	35 -	A B C D	45 -	A B C D	55 -	A B C D
6 -	A B C D	16 -	A B C D	26 -	A B C D	36 -	A B C D	46 -	A B C D	56 -	A B C D
7 -	A B C D	17 -	A B C D	27 -	A B C D	37 -	A B C D	47 -	A B C D	57 -	A B C D
8 -	A B C D	18 -	A B C D	28 -	A B C D	38 -	A B C D	48 -	A B C D	58 -	A B C D
9 -	A B C D	19 -	A B C D	29 -	A B C D	39 -	A B C D	49 -	A B C D	59 -	A B C D
10 -	A B C D	20 -	A B C D	30 -	A B C D	40 -	A B C D	50 -	A B C D	60 -	A B C D