

# الكيمياء للفف الأول الثانوي



## نماذج استرشادية

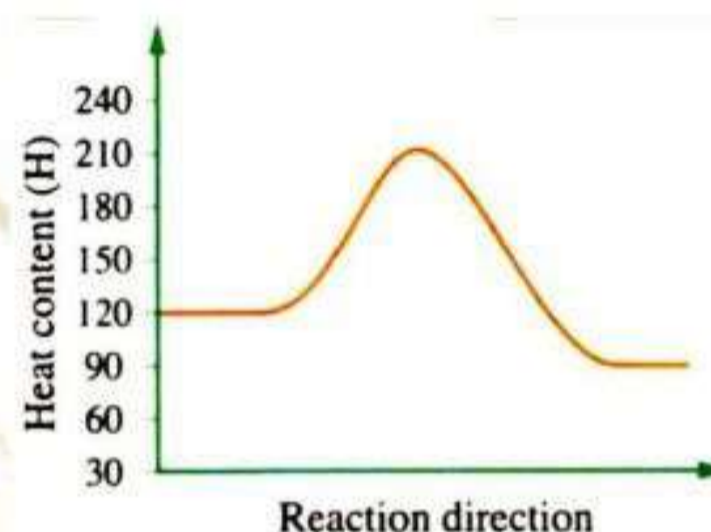


① Choose the correct answer:

1- Which of the following statements represents a closed system? .....

a	The incoming mass = the outgoing mass from the system.
b	Matter does not transfer either to or from the system.
c	Incoming matter in the system might be more or less than the outgoing matter.
d	It does not exchange either heat or work with its surrounding.

2- The opposite graphical figure represents the thermal change which occurs during a chemical reaction. What is the value of  $\Delta H$  of this reaction?.....



a	-120 kJ
b	-30 kJ
c	+30 kJ
d	+120 kJ

٣- After passing 48 hours for a sample of a radioactive element,  $\frac{1}{16}$  of it remained unchanged. What is the half-life of this element?.....

a	3 hours
b	9.6 hours
c	12 hours
d	24 hours

إختبار تجريبي لمادة الكيمياء لغات  
الصف الأول الثانوي  
الفصل الدراسي الثاني – ٢٠٢٤



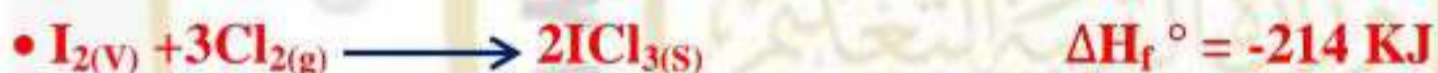
٤ - The change in enthalpy of the following reaction is.....



Bond	Average bond energy (kJ/mol)
C – H	413
C ≡ C	835
O = O	498
C = O	803
O – H	467

a	- 4146
b	- 1240
c	+ 2906
d	+ 7052

٥ - In the two following equations:

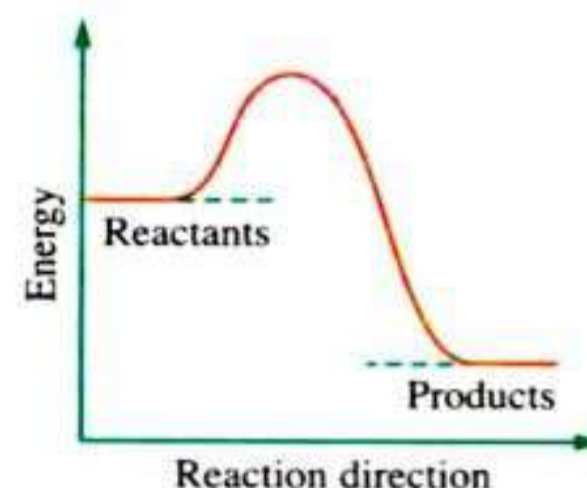


- What is the value of the standard heat of formation of iodine trichloride  $\text{ICl}_3(\text{s})$  according to Hess's law ?

a	+176 kJ/mol
b	-88 kJ/mol
c	-176 kJ/mol
d	- 214 kJ/mol



٦- The opposite graphical figure cannot represent the change in the standard enthalpy of .....



a	combustion
b	formation
c	attachment of the molecules of solvent to solute
d	evaporation

٧- In terms of the reaction:



What is the standard heat of formation of  $\text{Fe}_2\text{O}_3$ ? ..... (Fe = 56)

a	Zero
b	- 824 kJ/mol
c	-1648 kJ/mol
d	-3296 kJ/mol

٨- A sample of water its mass equals 100 g, its initial temperature is  $22^\circ\text{C}$ , this sample acquired a quantity of heat which equals 8360 J.

What is the final temperature of the sample?

a	$18.3^\circ\text{C}$
b	$20^\circ\text{C}$
c	$25.7^\circ\text{C}$
d	$42^\circ\text{C}$

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**٩- According to the three following equations :**



**- What is the value of  $\Delta H$  of the following reaction?  $C \longrightarrow E + 3D$**

<b>a</b>	+ 10 kJ / mol
<b>b</b>	- 10 kJ / mol
<b>c</b>	- 20 kJ / mol
<b>d</b>	+20 kJ / mol

**10-The atomic number of iron is 26 and it's found in nature in the form of four isotopes ( $^{54}\text{Fe}$ ,  $^{56}\text{Fe}$ ,  $^{57}\text{Fe}$ ,  $^{58}\text{Fe}$ ).. Which of the following statements explains the reason for all these isotopes having the same chemical properties? They have the same.....**

<b>a</b>	mass number.
<b>b</b>	number of nucleons.
<b>c</b>	number of neutrons.
<b>d</b>	number of electrons in the last energy level.

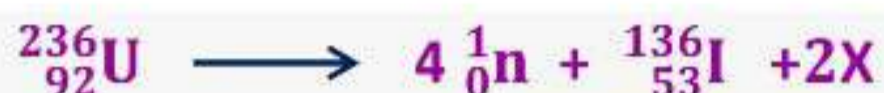
**١١- What is the number of up quarks in the nucleus of  $^{13}_6\text{C}$  ?**

<b>a</b>	7
<b>b</b>	12
<b>c</b>	19
<b>d</b>	24

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١٢- Which of the following choices represents the product (X) in the following equation:



a	${}_{41}^{98}\text{Nb}$
b	${}_{38}^{96}\text{Sr}$
c	${}_{39}^{96}\text{Y}$
d	${}_{40}^{98}\text{Zr}$

١٣- When  ${}_{92}^{238}\text{U}$  loses 1  $\alpha$ -particle, then 2  $\beta^-$ -particles and  $\gamma$ -rays, it is transformed into.....

a	${}_{92}^{236}\text{U}$
b	${}_{90}^{238}\text{Th}$
c	${}_{91}^{234}\text{Pa}$
d	${}_{92}^{234}\text{U}$

١٤- Which of the following equations expresses the probable occurring reaction in the fission nuclear reactor? .....

a	${}_{7}^{14}\text{N} + {}_0^1\text{n} \longrightarrow {}_{7}^{15}\text{N}$
b	${}_{1}^2\text{H} + {}_{1}^2\text{H} \longrightarrow {}_{2}^4\text{He}$
c	${}_{92}^{239}\text{U} \longrightarrow {}_{38}^{95}\text{Sr} + {}_{54}^{141}\text{Xe} + 3{}_0^1\text{n}$
d	${}_{21}^{46}\text{Sc} \longrightarrow {}_{21}^{46}\text{Sc} + \gamma$



### Essay questions

1) Arrange the compounds in each table ascendingly according to their thermal stability:

①	Compound	$\Delta H_f^\circ$ (KJ/mol)
(1)	$Al_2(SO_4)_3$	- 3440
(2)	$AlCl_3$	- 705.63
(3)	$Al(OH)_3$	- 1277

2) Calculate the actual mass of the nucleus of  $^{12}_6C$  atom, knowing that:

\* Nuclear binding energy of each nucleon in carbon atom = 7.42007 MeV

\* Mass of each proton and neutron = 1.00728 u, 1.00866 u respectively.

((( إنتهت الأسئلة )))\*



## نموذج إجابة

إختبار تجريبي لمادة الكيمياء لغات

الصف الأول الثانوي

الفصل الدراسي الثاني – ٢٠٢٤

Question	Answer
1	b
2	b
3	c
4	b
5	b
6	d
7	b
8	d
9	b
10	d
11	c
12	c
13	d
14	c