

تم تحميل هذا الملف من موقع المناهج الإماراتية



الملف أسئلة امتحان الحرارة والطاقة الحرارية والمعادلات الحرارية

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روابط مواقع التواصل الاجتماعي بحسب الصف الثاني عشر العام



روابط مواد الصف الثاني عشر العام على تلغرام

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المزيد من الملفات بحسب الصف الثاني عشر العام والمادة كيمياء في الفصل الثاني

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The 2nd semester exam is the second time for the academic year  
2019/2020  
For the 12- G

**Question no. 1**

الجدول التالي يحتوي على بعض المفاهيم العلمية التي مرت عليك خلال هذا الفصل :

Heat	( C )	Law of Conservation Energy	( B )	Energy	( A )
Molar enthalpy of vibration	( F )	joule	( E )	cal	( D )
	( I )	Specific Heat	( H )	Calorimeter	( G )
Change in enthalpy	( L )	Temp.	( K )	Hess`s Law	( J )
Heat of Combustion	( O )	Endothermic Reaction	( N )	Exothermic Reaction	( M )

**I- Chose the Correct letter from the above table that suitable Concept:**

- 1- The ability to do work. ( )
- 2- Measurement of the average of kinetic energy of the substance. ( )
- 3- The amount of energy released from reaction of 1 mol of substance with excess amount of Oxygen. ( )
- 4- The change of enthalpy for any reaction is a constant if this reaction takes place in one step or multiplies. ( )
- 5- The amount of energy required to raise the temperature of 1 g of substance by One degree Celsius ( )

- 6- The amount of heat energy produced equal to 0.239 joule. ( )
- 7- An isolated system used to measurement of heat energy ( )  
gained or released.
- 8- The heat content of reactants is lower than the heat content of the products ( )
- 9- The amount of heat energy required to convert (1 mol) of water to vapor ( )

## Question no. 2

### II- Chose the correct answer:

\*In the reaction :  $2\text{C}_2\text{H}_2 + 5\text{O}_2 \rightarrow 4\text{CO}_2 + 2\text{H}_2\text{O}$  ,  $\Delta H = -2599\text{Kj}$

$\Delta H$  value is equal to :

- A- Heat of combustion of acetylene  
C- Heat of formation of water

- B- Heat of Reaction  
D- Molar enthalpy of vibration

\*In this reaction:  $\text{C}_3\text{H}_8 + 10\text{N}_2 \rightarrow 3\text{CO}_2 + 4\text{H}_2\text{O} + 10\text{N}_2$  ,  $\Delta H = -2599\text{Kj}$

- A- Endothermic and thermal stable  
C- Exothermic and thermal stable
- B- Endothermic and not thermal stable  
D- Endothermic and not thermal stable

- A mass of copper sample weight ( 10 g) gained an amount of heat energy equal ( 40j) leaded to raise its temp by ( 10 °C). The specific heat of C=:

- A- 0.04                      B- 0.4                      C- 4                      D- 40

- During the melting process, the gained heat energy doing to :

- A- Increase the temperature  
c- Overcome the bonding force
- B- decrease the temperature  
D- Increase the kinetic of molecules

- One factor that has delayed the development of solar technologies:  
A. Use of solar panels. C. Use of batteries  
B - Increasing clouds D - increasing use of photoelectrical cells..

**Give scientific reasons:**

**1. People feel the sea breeze in the summer?**

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.....



**2- The wet board sticks a cup containing a mixture of barium hydroxide and ammonium thiocyanate.**

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**3- Although the  $\Delta H$  for the reaction  $C_{\text{graphite}} \rightleftharpoons C_{\text{Diamond}}$  is low it does not occur under normal conditions, why?**

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**Question no. 3**

**III- Solve the following problems:**

1- Calculate the heat of reaction for the following reaction:



Using the following data:

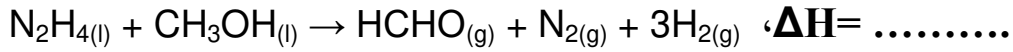
- $\Delta\text{H}^\circ_f \text{ CO}_2 \text{ g} = - 394 \text{ Kj}$ ,
- $\Delta\text{H}^\circ_f \text{ H}_2\text{O} (\text{l}) = - 286 \text{ Kj}$
- $\Delta\text{H}^\circ_f \text{ CH}_4 \text{ g} = - 75 \text{ Kj}$

2- Study the following reaction and answer the question below:

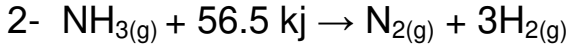
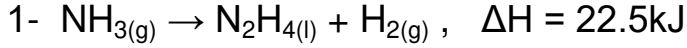


- Classify the reaction thermally? .....
- If we considered the reaction as a combustion reaction of alcohol what the amount of heat energy released:? .....
- What do you expect about the value of (  $\Delta\text{H}$  ) if the product was Water instead of water vapor? .....

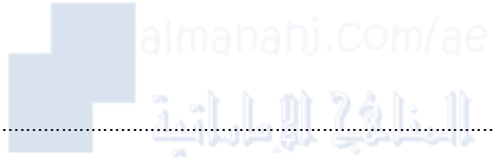
4- Calculate the heat of reaction by using Hess`s law



Using the following equations:



### The Solution



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