

# Exam Practice Guide

## Unit 3 Chemistry Examination Questions

### Key Features:

- ✓ 80 original examination style questions on all examinable topics.
- ✓ Full solutions and a marking guide to all questions.
- ✓ Separated into key topic areas within each Area of Study, enabling students to master one topic at a time.
- ✓ Written by VCE assessors who mark the real examinations.
- ✓ Excellent resource for examination practice.

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***Helping VCE students be the best they can be.***

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SAMPLE

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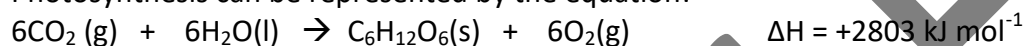
**AREA OF STUDY 1: What are the options for energy production?****Topic 1 – Obtaining energy from fuels****Question 1**

"Fossil fuels" refers to:

- A. coal
- B. oil
- C. natural gas
- D. All of the above

**Question 2**

Photosynthesis can be represented by the equation:

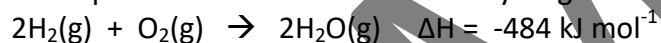


The energy change when 360 g of glucose is burnt will be:

- A. the absorption of 2803 kJ of energy.
- B. the release of 5606 kJ of energy.
- C. the absorption of 5606 kJ of energy.
- D. the release of 5606 J of energy.

**Question 3**

The equation for the combustion of hydrogen is:

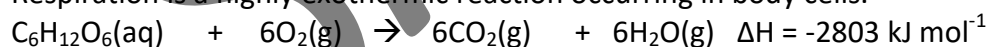


The energy released when 2.40 g of hydrogen reacts is:

- A. 145 J
- B. 290 J
- C. 145 kJ
- D. 290 kJ

**Question 4**

Respiration is a highly exothermic reaction occurring in body cells.

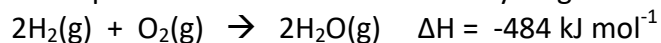


The basal metabolic rate (BMR) for an average adult is 4301 kJ/day. Using this number what is the minimum mass of glucose required per day to provide the basic energy requirements for our bodies.

- A. 46 g
- B. 117 g
- C. 276 g
- D. 1656 g

**Question 5**

The equation for the combustion of hydrogen is:



The value of  $\Delta\text{H}$  provided here:

- A. should be the same as that given in the VCAA chemistry data book
- B. will be double that of the data book
- C. will be half that of the data book
- D. will be different to that of the data book, as the phases of the chemicals are different

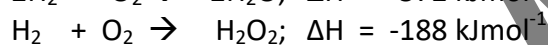
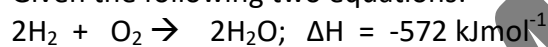
**Question 6**

The fuel that produces the greatest amount of energy per gram during combustion is:

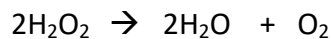
- A. ethanol
- B. propane
- C. octane
- D. hydrogen

**Question 7**

Given the following two equations:



What is the  $\Delta\text{H}$  for the following reaction:



- A.  $-384 \text{ kJmol}^{-1}$
- B.  $-196 \text{ kJmol}^{-1}$
- C.  $-948 \text{ kJmol}^{-1}$
- D.  $+376 \text{ kJmol}^{-1}$

**Question 8**

- a. Octane ( $\text{C}_8\text{H}_{18}$ ) is a fossil fuel derived from the fractional distillation of crude oil. Octane is a component of petrol and is combusted in car engines. Write the combustion reaction for octane.

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(2 marks)