|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Description: Vertical full colour positive | Safety Bay Senior High School | | | | |
| **CHEMISTRY UNIT 3 & 4** | | | | | |
| **Extended Response # 3:** | | | | | |
| **Organic chemistry & Chemical synthesis** | | | | | |
|  | | | | | |
| **NAME:** | | |  | | |
|  | | |  | | |
| **Time allowed for this paper** | | | | | |
| Planning time: | | 10 minutes *Use spare paper provided* | | | |
| Working time: | | 50 minutes | | | |
|  | | | | | |
| **Structure of this paper:** | | | | | |
| Section | | | Number of questions | Marks available | Marks achieved |
| Written response | | | 2 | 40 | \_\_\_\_\_\_ |

In this extended response you need to write answers to the following **two questions** (see full text below).

**Question 1:**

Using examples, describe ‘addition polymers’ and ‘condensation polymers’ (including polyesters and polyamides).

Your answer should include:

* an explanation of the term ‘polymer’
* the structure and name of an example of type of polymer (including polyesters and polyamides)
* structures of starting materials for each example of a polymer type
* polymerisation reactions

(20 marks)

**Question 2:**

“Amino acids are an important category of organic molecules. Discuss the chemistry of amino acids, including:

* The chemical structure of amino acids, including alpha- amino acids
* The effect of pH on the structure of amino acids
* How this structure is linked to the physical properties of amino acids (i.e. melting point and solubility)
* How amino acids are able to form long polypeptide chains”

(20 marks)

Your answer should be approximately 2 -3 pages in length. Your answer should take the form of a structured written response. In addition to content, marks will be awarded for structure and clarity. Include chemical equations, diagrams and tables where appropriate.