1. Which is the most recently evolved fossil out of the ammonite and crinoid? Provide a reason for your choice. (2 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| Ammonite | 1 |
| The ammonite appears in a more recent layer/ higher layer than the crinoid (the crinoid first appears earlier than the ammonite first appears) | 1 |
| **Total** | **2** |

1. Explain whether the gastropod would be a suitable organism to be used as an index fossil. (2 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| No | 1 |
| The gastropod appears in multiple strata/does not appear in a small temporal distribution | 1 |
| **Total** | **2** |

1. What is absolute dating? Name **two** different types of absolute dating and for each identify the object that is tested and the age range for the object. (7 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| Absolute dating: when an actual age in years is given to a specimen | 1 |
| Any **two** of the following methods for 3 marks each |  |
| Method one | |
| Potassium-Argon Dating | 1 |
| Inorganic objects/ rocks are used | 1 |
| Age range is rocks older than 100000-200000 years | 1 |
| Method two | |
| Carbon 14 Dating | 1 |
| Organic material used/bones | 1 |
| Less than 60000 years | 1 |
| Method three (Note: Not required in the syllabus but correct) | |
| Dendrochronology | 1 |
| Tree rings/ trees | 1 |
| Up to 9000 years | 1 |
| **Total** | **7** |

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|  |  |
| --- | --- |
| **Description** | **Mark** |
| Ammonite | 1 |
| The ammonite appears in a more recent layer/ higher layer than the crinoid (the crinoid first appears earlier than the ammonite first appears) | 1 |
| **Total** | **2** |

1. Explain whether the gastropod would be a suitable organism to be used as an index fossil. (2 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| No | 1 |
| The gastropod appears in multiple strata/does not appear in a small temporal distribution | 1 |
| **Total** | **2** |

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