OCR AS/A-level Year 1 Biology A exam practice answers

**13 Classification and evolution**

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| Kingdom | **Animalia** |
| **Phylum** | Chordata |
| Class | Mammalia |
| **Order** | Carnivora |
| Family | Felidae |
| Genus | ***Panthera*** |
| **Species** | *pardus* |

[5]

**2 (a) (i)** It can be quantified; there are no distinct categories. [2]

**(ii)** It is usually qualitative; it has distinct categories. [2]

**(b)** Genetic; environmental. [2]

**(c)** Selection is the result of a selective pressure. There is variation between individuals, which means that some are better adapted than others. The better adapted survive and reproduce. [3]

**3 (a)** Most bacteria are killed by antibiotics. Variation between individuals can mean that some individuals have a little resistance to the antibiotics — this may be the presence of an enzyme that can hydrolyse the antibiotic molecules. If the full course of antibiotics is not completed, the resistant individuals may survive. They will then reproduce and pass on their resistance to the next generation. Over many generations, the population will become resistant. [5]

**(b)** Proteins are chains of amino acids. The sequence of amino acids is coded by the genes. Members of one species will have the same sequence of amino acids. Variations are caused by genetic changes that cause changes to the proteins. Evolution occurs when these variations are selected, so differences in protein structure between species indicate that evolution has occurred. [4]