1.16 Variation, Evolution and Selection: 10-minute Pack

Total Marks

AQA 8464 · Calculator allowed · about 10 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 The Linnaean system classifies living organisms into a hierarchy of groups.

(a) Put the following classification groups in order, starting with the largest: Family, Genus, Kingdom, Species. **(2)**

(b) The scientific (binomial) name for the field poppy is Papaver rhoeas. State which part of this name represents the genus. **(1)**

(Total for Question 1 is 3 marks)

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2 Describe three ways of reducing the rate at which bacterial populations become resistant to antibiotics.

(Total for Question 2 is 3 marks)

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3 Variation is the differences that exist between individuals of the same species. Some variation is caused by genes, some by the environment, and some by both.

(a) State what is meant by the term 'genetic variation'. **(1)**

(b) Give two sources of genetic variation in a population. **(2)**

(Total for Question 3 is 3 marks)

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Mark scheme · 1.16 Variation, Evolution and Selection: 10-minute Pack

Question 1

(a) Kingdom first and Species last **M1**

(a) fully correct order: Kingdom, Family, Genus, Species **A1**

(a) Answer: Kingdom, Family, Genus, Species.

(b) Papaver (the genus name is always given first and capitalised) **B1**

(b) Answer: Papaver.

Question 2

only prescribe antibiotics for serious bacterial infections, not for viral infections such as colds or flu **B1**

patients should always complete the full course of antibiotics as prescribed, rather than stopping early once they feel better **B1**

avoid unnecessary use of antibiotics, e.g. in agriculture, and improve hygiene/infection control to reduce the spread of resistant strains; any three distinct measures for 3 marks, oe **B1**

Answer: For example: only prescribe antibiotics for bacterial (not viral) infections; patients complete the full course; improve hygiene and avoid unnecessary agricultural use to limit the spread of resistant strains.

Question 3

(a) differences between individuals of a species caused by differences in their genes/alleles/DNA, oe **B1**

(a) Answer: Differences between individuals caused by differences in their genes (alleles).

(b) mutation (creates new alleles) **B1**

(b) meiosis (independent assortment of chromosomes) or sexual reproduction / random fusion of gametes from two parents, oe; any two of these sources for 2 marks **B1**

(b) Answer: Mutation, and meiosis (or sexual reproduction / the random fusion of gametes from two parents).

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