Mark scheme

Natural selection

Biology 0610 · Questions from Paper 1, Paper 2 and Paper 4

Total marks

25

MARKS FOR EACH QUESTION

1	2	3	4	5	6	7	8	9	10	Total
1	1	1	1	1	1	1	1	6	11	**25**

Question 1 **[1]**

Answer D

Question 2 **[1]**

Answer A

Question 3 **[1]**

Answer C

Question 4 **[1]**

Answer A

Question 5 **[1]**

Answer C

Question 6 **[1]**

Answer B

Question 7 **[1]**

Answer B

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Question 8 [1]

Answer D

Question 9 [6]

9(a)(i)	*Geospiza* ;	**1**
9(a)(ii)	*any five from:* natural selection ; variation (in beak shapes) ; mutation / description ; those birds with, selective advantage / unique beak shape, more likely to find food and survive ; the birds that survive reproduce ; pass on their alleles ; continues over many generations ; AVP ;	**5**

Question 10 [11]

10(a)	*any two from:* nucleus / nuclear membrane / nuclear envelope ; (linear) chromosomes ; mitochondrion ; endoplasmic reticulum ; vacuoles / vesicles ; AVP ;	**2**

10(b)	*any six from:* resistance arises by mutation ; in small number of bacteria ; ref. to a random event (not related to presence of antibiotic) ; antibiotic kills bacteria that do not have the mutation / AW ; resistant bacteria have no competition ; resistant bacteria reproduce ; pass on, gene / allele, for resistance ; natural selection ; method of transmission from one person to another described ; gene transferred to other bacteria (of different type) in a plasmid ; AVP ;	**6**
10(c)	*any three from:* prescribe / use, antibiotics less often ; do not use for, viral / fungal, infections ; make sure people complete the course of antibiotics / AW ; develop new antibiotics ; do not use the same antibiotics for too long / rotate antibiotics / AW ; use combinations of antibiotics ; AVP ;; e.g. isolation of patients with antibiotic-resistant infections / good hygiene to prevent spread of infection / reduce use of antibiotics in farming	**3**

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