

Section A answers:

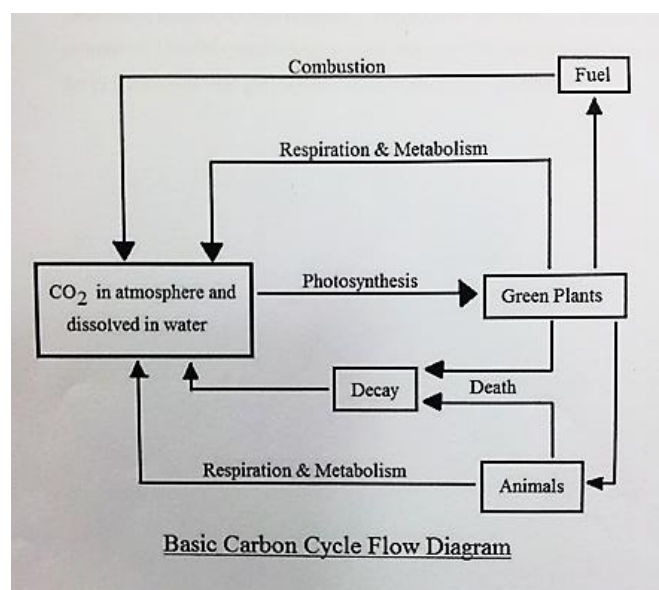
Question		Question		Question		Question		Question	
1	D	10	E	19	C	28	D	37	C
2	A	11	B	20	A	29	B	38	A
3	D	12	C	21	D	30	D	39	B
4	B	13	D	22	A	31	A	40	E
5	C	14	B	23	D	32	B	41	D
6	C	15	D	24	E	33	E	42	A
7	D	16	B	25	B	34	D	43	A
8	D	17	A	26	A	35	D	44	C
9	D	18	A	27	C	36	B	45	B

Section B answers:

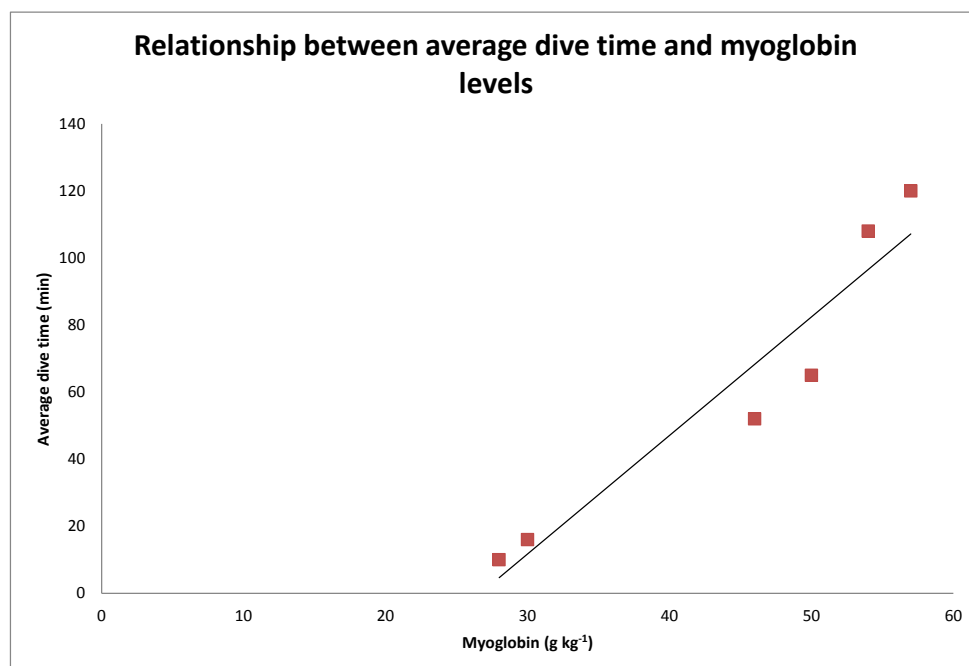
Question	Answer	Marks
46	9:3:3:1	2
47	F, T, F	1.5
48	F, T, F	1.5
49	E	1
50	T, T, F, T	2
51	A	1
52	T, F, F, T	2
53	TT, FT, TT, TT	2

Section C answers:

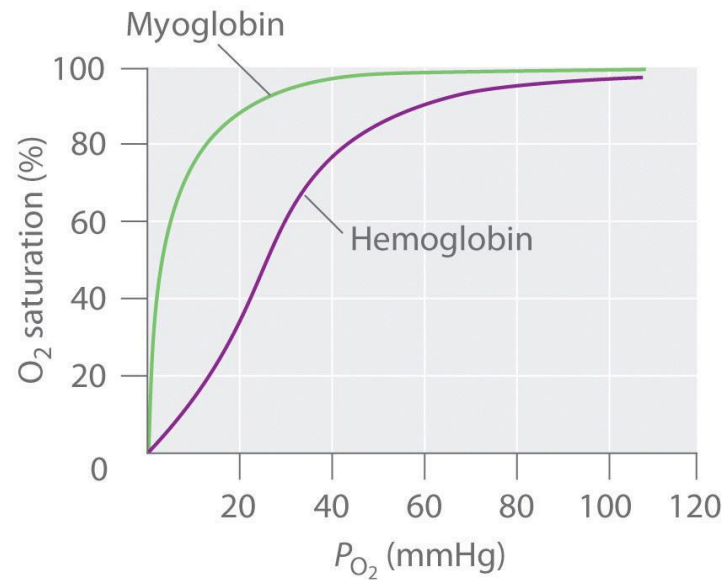
- 1 mark → 45,500
- 1 mark → 2.4 or 2.42%
- 1 mark → 22500/44500 gives 49.5%
- 1 mark → Heat
- 4 marks



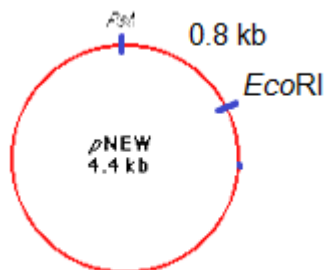
6. 3 marks → Increase in temperature leads to increase in ice melting leads to increase in sea level
7. 3 marks → 16 total outcome with 9 possible genotypes. The proportions of each genotype are as follows:
 AABB (1/16)
 AABb (2/16)
 Aabb (2/16)
 AaBB (2/16)
 AABb (1/16)
 aaBB (1/16)
 AaBb (4/16)
 aaBb (2/16)
 aabb (1/16)
8. 1 mark → $X^T X^T$
9. 1 mark → $X^t Y$
10. 1 mark → $X^T Y$
11. 3 marks → $P(\text{roan polled}) = 6/16, 0.375$; $P(\text{white polled}) = 3/16, 0.1875$
12. 2 marks → 2:1:1:0 or half black, quarter Chinchilla, quarter Himalayan, zero albino
13. 3 marks → Lower oxygen tension stimulates kidneys to release more renal erythropoietic factor, thus more EPO formed, thus RBC production increases and red cell production becomes faster than destruction. It takes several weeks before an appreciable effect is seen, a minimum of 3 weeks
14. 2 marks → If kidneys are not functioning well then EPO production is limited so RBC production is decreased. Anaemia is a condition of reduced blood cells
15. 2 marks → Plasma proteins are made in the liver, not enough plasma proteins/EPO precursor formed by diseased liver
16. 5 marks



17. 2 marks → dive time increases with increased myoglobin concentration
 18. 1 mark → roughly 30 depending on the graph
 19. 2 marks → decreased heart rate, slowing of metabolism to decrease oxygen demand, blood shunted to vital organs
 20. 1 mark



21. 1 mark → 4.4 kbp
 22. 2 marks



23. 2 marks

