Transport of gases in the Blood

Question Paper

Level	A Level
Subject	Biology
Exam Board	Edexcel
Topic	Exchange and Transport
Sub Topic	Transport of gases in the Blood
Booklet	Question Paper

Time Allowed: **15 minutes**

Score: **/12**

Percentage: **/100**

Grade Boundaries:

A*	A	B	C	D	E	U
>85%	'77.5%	70%	62.5%	57.5%	45%	<45%

1 The photograph below shows Usain Bolt, an elite sprinter. He won a gold medal in the 100 metre final at the 2012 Olympic Games in a time of 9.63 seconds.

(a) The skeletal muscles of elite sprinters are likely to have many fast twitch muscle fibres. Suggest why these muscles are less red in colour than muscles with many slow twitch muscle fibres.

(2)

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(b) The pH of the blood of a sprinter falls during a race and returns to its original level after the race.

(i) State the homeostatic control mechanism that returns the pH of blood to its original level.

(1)

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*(ii) Explain how the pH of the blood of a sprinter is returned to its original level after a race.

(5)

(iii) During the race, heat is generated and is lost from the body through the skin.

Describe how muscle, present in blood vessels in the skin, helps to increase heat loss from the body.

(4)

(Total for Question 1 = 12 marks)