

TOPIC: COORDINATION AND RESPONSE

Multiple Choice Questions:

1. What is a sign of diabetes mellitus?

[Nov 2008, Q22]

- A Glucose in the blood
- B Glucose in the urine
- C Insulin in the blood
- D Insulin in the urine

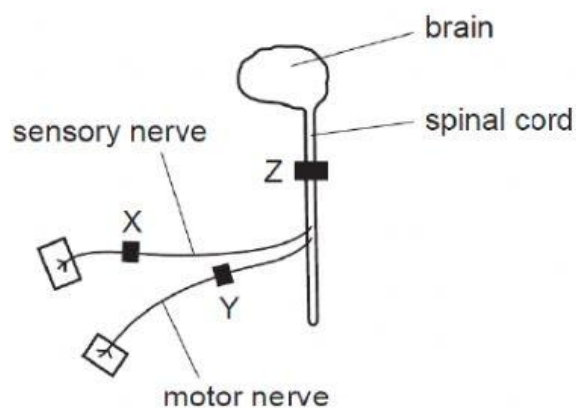
2. Which changes occur in the body when a person is shocked?

[Nov 2008, Q23]

	Increase in	Decrease in
A	The diameter of the pupils in the eye	The speed of peristalsis
B	The rate of conversion of glycogen to glucose	The diameter of the pupils in the eye
C	The rate of urine formation	The rate of conversion of glycogen to glucose
D	The speed of peristalsis	The rate of urine formation

3. The diagram represents a central nervous system. X, Y and Z show possible sites where the system can be blocked by a local anaesthetic.

[Nov 2008, Q24]



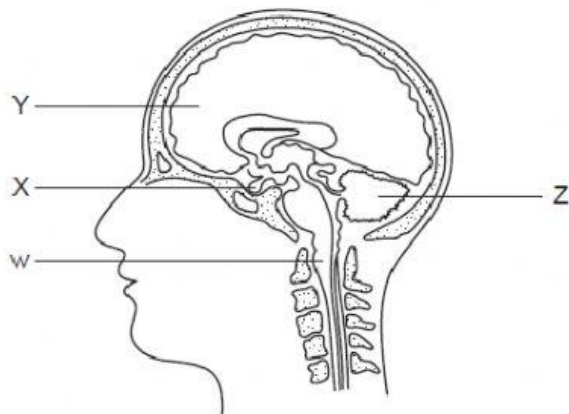
Of four men, one had no anaesthetic block and the other three had only one anaesthetic block at X, Y or Z.

One of the men can feel a pinprick on his leg but cannot move it.

Where is the anaesthetic block?

- A Block is at X
- B Block is at Y
- C Block is at Z
- D No block

4. The diagram is a section through the human head showing the brain and associated structures.



Where are the cerebellum and the pituitary gland?

[Nov 2009, Q22]

	Cerebellum	Pituitary gland
A	W	Z
B	X	Y
C	Y	W
D	Z	X

5. A person is sitting in a dark room.

[Nov 2009, Q23]

What happens in the eye when a light is switched on?

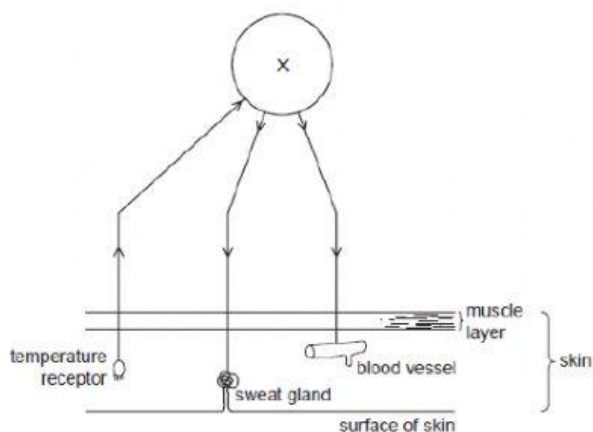
	Circular muscle of iris	Size of pupil
A	Contracts	Decreases
B	Contracts	Increases
C	Relaxes	Decreases
D	Relaxes	Increases

6. The diagram shows some nerve pathways involved in temperature control of the human body.

Which part of the nervous system does X represent?

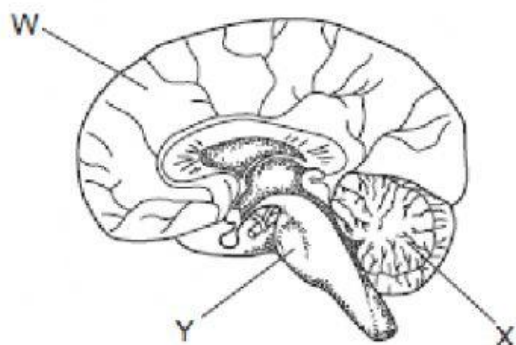
[Nov 2010, Q24]

- A Cerebrum
- B Hypothalamus
- C Medulla
- D Pituitary gland



7. The diagram shows a section through the human brain.

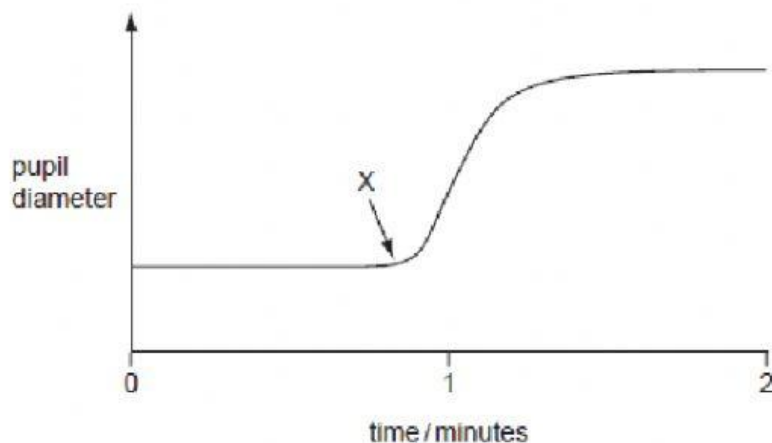
[Nov 2010, Q25]



What are the functions of the labelled regions?

	Memory	Balance
A	W	X
B	W	Y
C	X	W
D	X	Y

8. The graph shows how the diameter of the pupil of a person's eye changed during the course of two minutes.



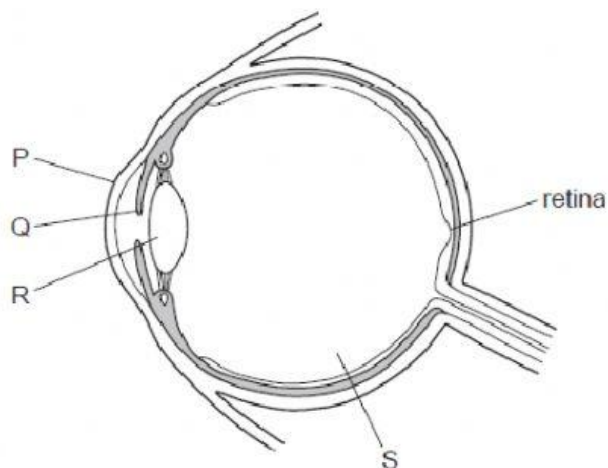
What happens to the light intensity at X and which muscles begin to contract?

[Nov 2010, Q26]

	Light intensity	Iris muscles contracting
A	Decreases	Circular
B	Decreases	Radial
C	Increases	Circular
D	Increases	Radial

9. The diagram shows a section through the eye.

[Nov 2011, Q25]



Which pair of structures focus light rays onto the retina?

- A P and Q      B P and R      C Q and R      D Q and S

10. Which part of the central nervous system controls the body's water balance?

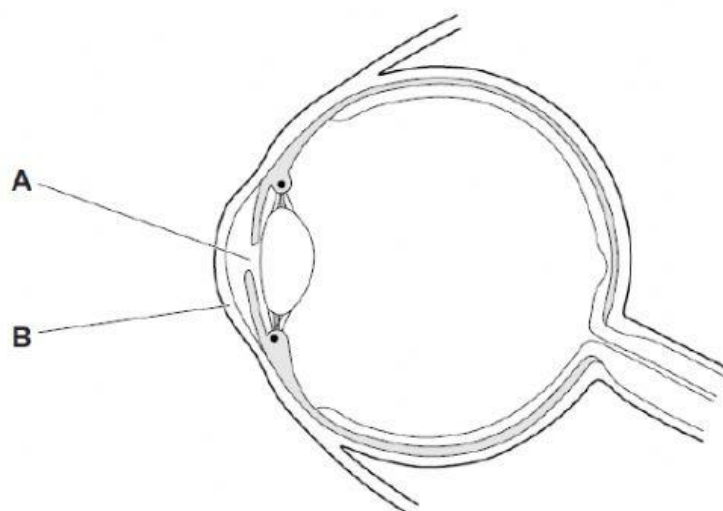
[Nov 2011, Q26]

- A Cerebellum  
B Cerebrum  
C Hypothalamus  
D Medulla

**Structured Questions:**

1. Fig. 1.1 shows the human eye in horizontal section.

[June 2012, Q1]



**Fig. 1.1**

(a) (i) Identify A and B that are labelled on Fig. 1.1.

A \_\_\_\_\_

B \_\_\_\_\_

[2]

(ii) Describe what happens to **A** when light entering the eye becomes less intense.

\_\_\_\_\_  
\_\_\_\_\_

[1]

(iii) Place a letter **Z** on Fig. 1.1 where a response occurs as a result of a reflex action.

[1]

(b) In some people's eyes, the retina becomes completely detached from the tissues beneath. Explain how this will affect their ability to see.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

[3]

(c) As people get older, cloudy (opaque) patches sometimes form in the lens of the eye. These are called cataracts. Suggest how cataracts might affect the ability of the lens to carry out its function.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

[3]

[Total: 10]

2. (a) Explain what is meant by a *hormone*.

[Nov 2010, Q6]

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

[4]

- (b) Give an example of a hormone and describe how it is involved in maintaining constant conditions within the human body.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

[6]

[Total: 10]