

The Eye

Question Paper

Level	O Level
Subject	Biology
Exam Board	Cambridge International Examinations
Topic	Coordination & Response
Sub Topic	The Eye
Booklet	Question Paper

Time Allowed: 28 minutes

Score: /23

Percentage: /100

1 Which structures cover the pupil at the front of a human eye?

- A conjunctiva and cornea
- B conjunctiva and sclera
- C cornea and retina
- D retina and sclera

2 In which order does light pass through these structures in the eye?

- A cornea → aqueous humour → lens → vitreous humour → retina
- B cornea → vitreous humour → lens → aqueous humour → retina
- C lens → aqueous humour → cornea → vitreous humour → retina
- D lens → vitreous humour → cornea → aqueous humour → retina

3 An antelope is grazing under a tree. It hears men shouting in the distance.

Which changes take place in the antelope’s eyes as it raises its head to look at the men?

	ciliary bodies	suspensory ligaments	lenses
A	contract	become taut	become more convex
B	contract	become slack	become less convex
C	relax	become taut	become less convex
D	relax	become slack	become more convex

4 A man stands 10 metres away from a sign and can see it clearly. He walks towards the sign and stops 0.5 metres from it.

Which changes occur in his eyes so that the sign is still in focus?

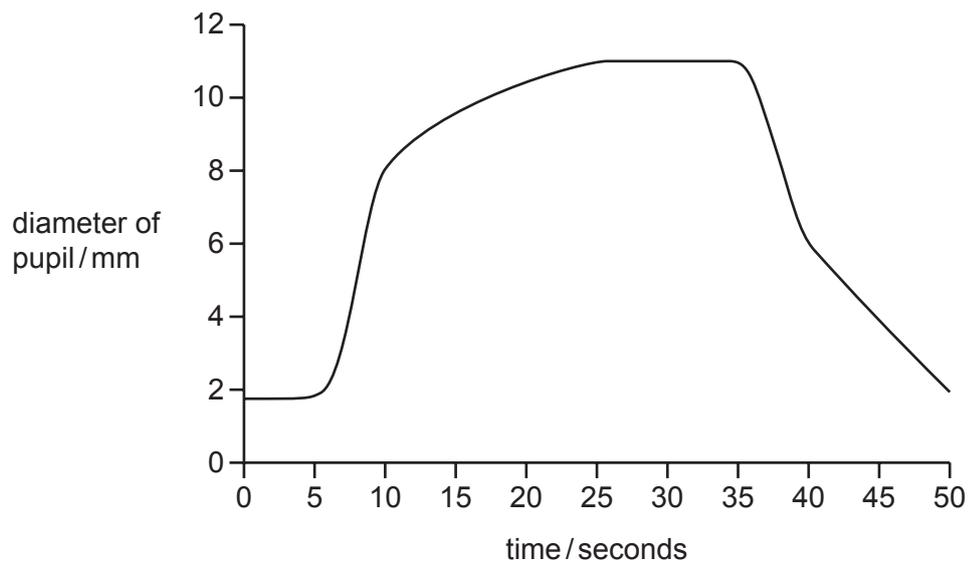
	ciliary muscles	suspensory ligaments	lens becomes	result is light rays refracted
A	contract	slacken	thicker	more
B	contract	tighten	thinner	less
C	relax	slacken	thinner	less
D	relax	tighten	thicker	more

5 Opticians sometimes place drops of a chemical in a patient's eye to keep the pupil wide open.

Which muscles contract when this chemical is used?

- A ciliary muscles
- B circular iris muscles
- C muscles that move the eyeball
- D radial iris muscles

6 The graph shows the changes in the size of the pupil of the eye as the light intensity of the surroundings is changed.



Between which times is the light intensity increasing?

- A 5 to 10 seconds
- B 10 to 25 seconds
- C 25 to 35 seconds
- D 35 to 40 seconds

7 The diagram shows the appearance of the side view of the lens when it focuses on objects at different distances from the eye.



P



Q

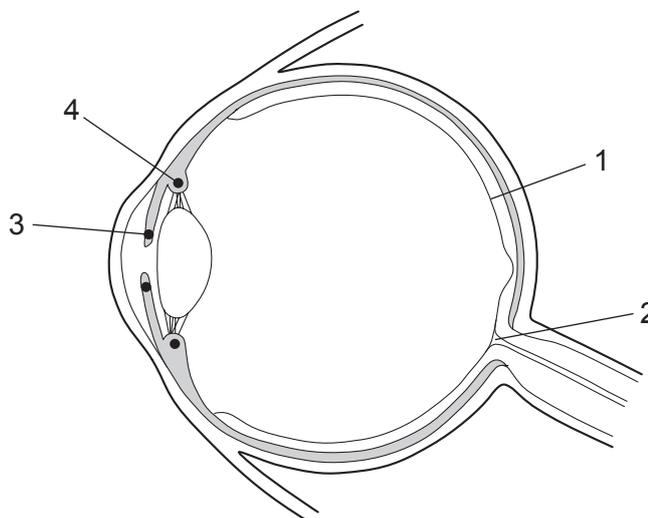


R

Which shows the appearance of the lens when a person focuses first on a near object and then on a distant object?

	near object	distant object
A	P	Q
B	P	R
C	Q	P
D	R	Q

8 The diagram shows a section through the eye.



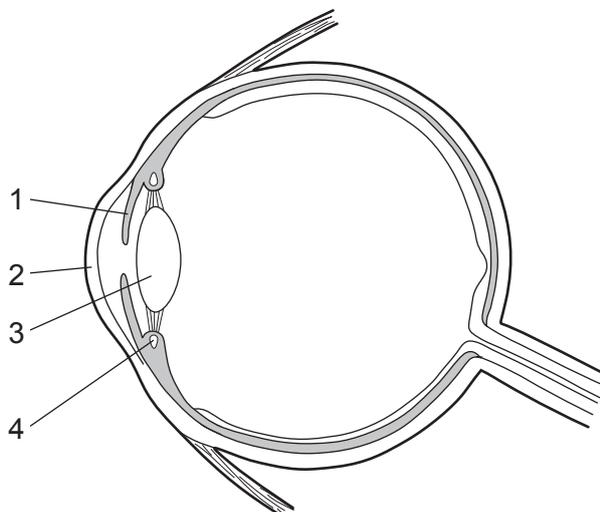
In the pupil reflex, which row gives the sites of the effectors and receptors involved?

	effectors	receptors
A	3	1
B	3	2
C	4	1
D	4	2

9 How is the shape of the lens changed when the eye focuses on a distant object?

	ciliary muscles	suspensory ligaments	lens
A	contract	pulled tight	pulled thin
B	contract	slackened	allowed to bulge
C	relax	pulled tight	pulled thin
D	relax	slackened	allowed to bulge

10 The diagram shows a section through an eye.



Which parts help to focus an image on the retina?

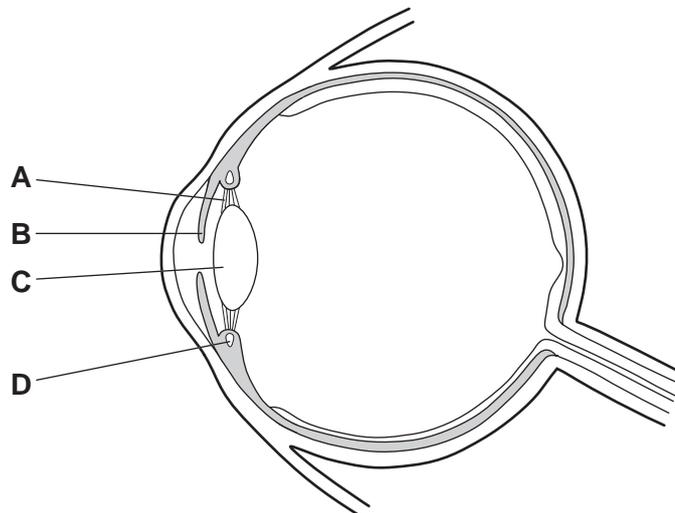
- A** 1 and 3 only **B** 1 and 4 only **C** 2, 3 and 4 **D** 3 and 4 only

11 What happens in the eye when a person walks from a dark room into sunlight?

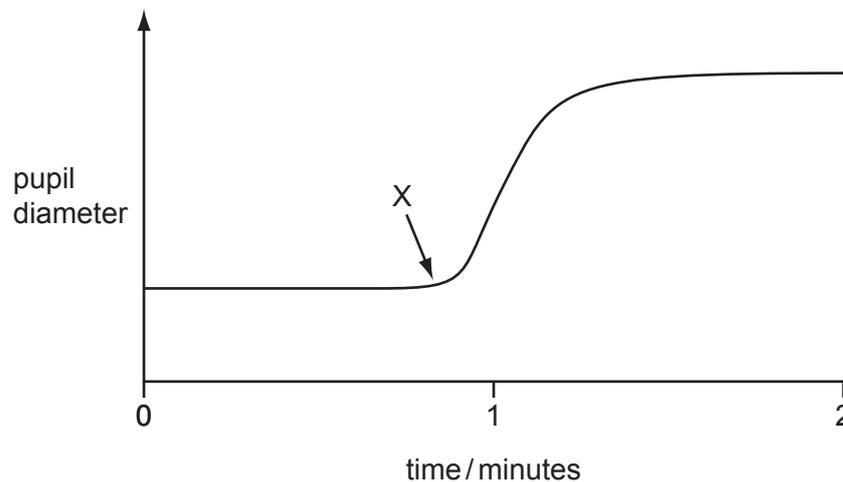
	circular muscles of the iris	radial muscles of the iris	pupil size
A	relax	contract	decreases
B	relax	contract	increases
C	contract	relax	decreases
D	contract	relax	increases

12 The diagram shows a section through a human eye.

Which structure contains muscle fibres that contract in response to sudden changes in light intensity?



13 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?

	light intensity	iris muscles contracting
A	decreases	circular
B	decreases	radial
C	increases	circular
D	increases	radial

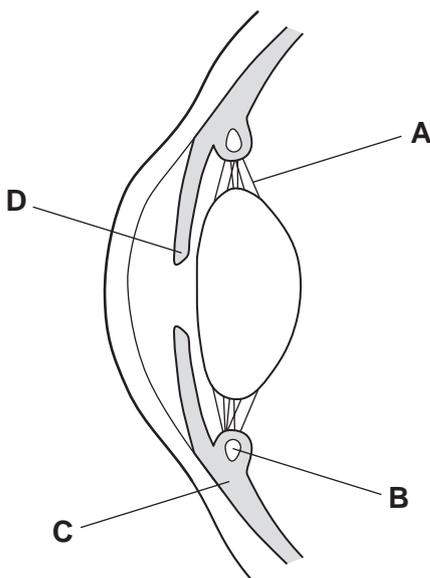
14 A person is sitting in a dark room.

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

15 The diagram shows a section through a human eye.

Which structure contains the muscles which contract to produce a focused image on the retina?

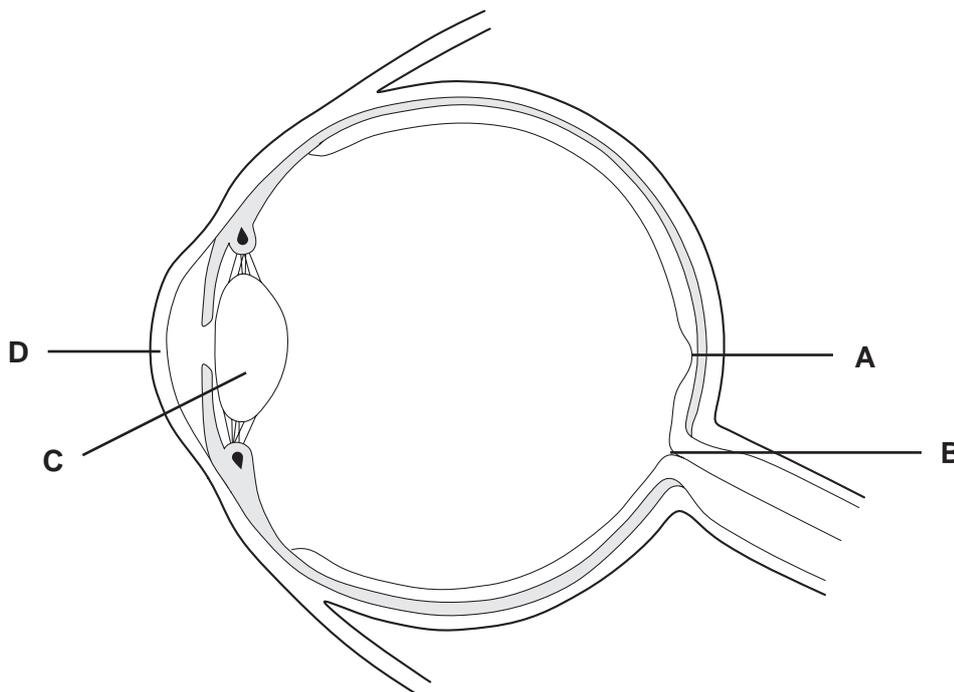


16 What happens to these structures when focussing on an object near the eye?

	ciliary muscles	suspensory ligaments
A	contract	tighter
B	contract	looser
C	relax	tighter
D	relax	looser

17 The diagram shows a section through the human eye.

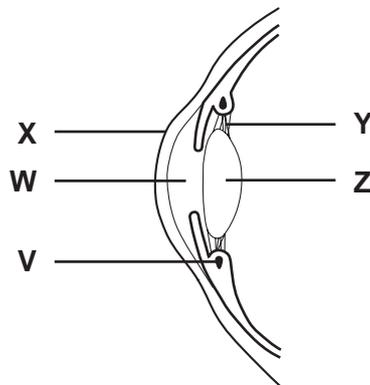
Where will an image be detected when a person looks at an object?



18 What structures cover the pupil of a human eye?

- A conjunctiva and cornea
- B conjunctiva and sclera
- C cornea and retina
- D retina and sclera

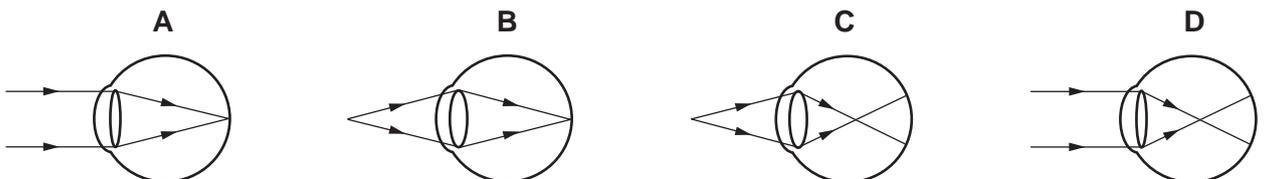
19 The diagram shows a section of a human eye focussed on a near object.



Which parts will change to focus on a distant object?

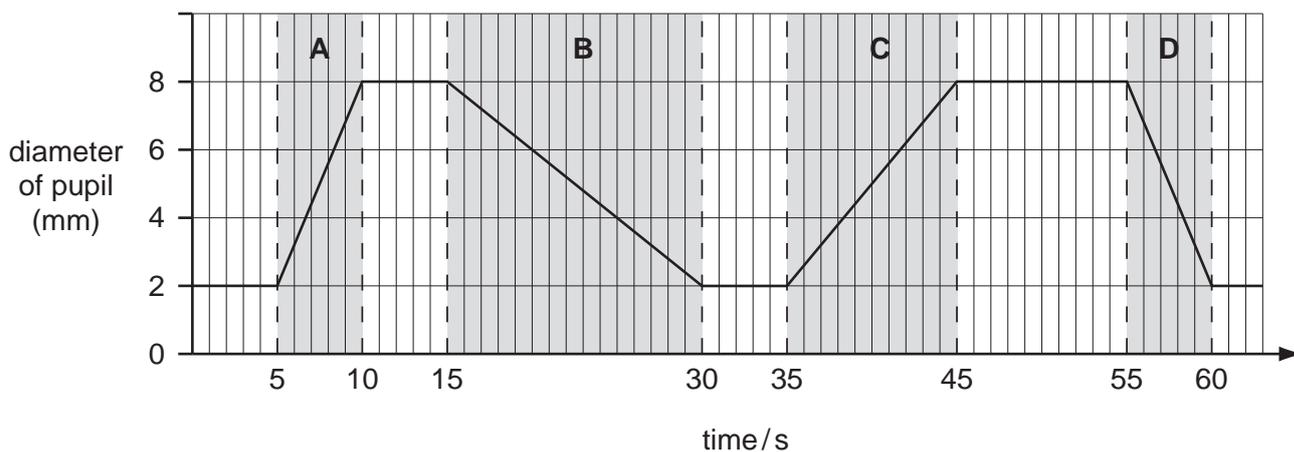
A	W	X	Y
B	V	X	Z
C	W	Y	Z
D	V	Y	Z

20 Which diagram shows how light from a distant object is focused on the retina to form a clear image?

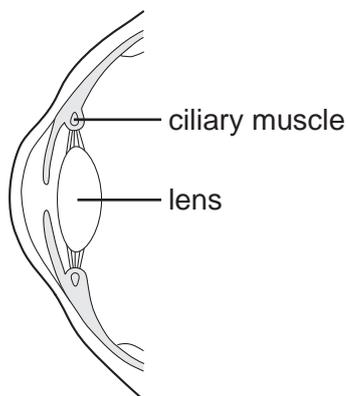


21 The diameter of a person’s pupil is measured as the light intensity is varied.

During which time period does the light intensity increase fastest?



22 The diagram shows the front part of an eye.



Which changes take place in the eye when a person looks up from reading a book to view a distant object?

	ciliary muscle	lens
A	contracts	becomes thicker
B	contracts	becomes thinner
C	relaxes	becomes thicker
D	relaxes	becomes thinner

23 Which changes take place in the iris of the eye when a person moves quickly from darkness into bright light?

	circular muscles of the iris	radial muscles of the iris	diameter of pupil
A	contract	relax	increases
B	contract	relax	decreases
C	relax	contract	decreases
D	relax	contract	increases