1 › i Define the term *sense organ*.

.....

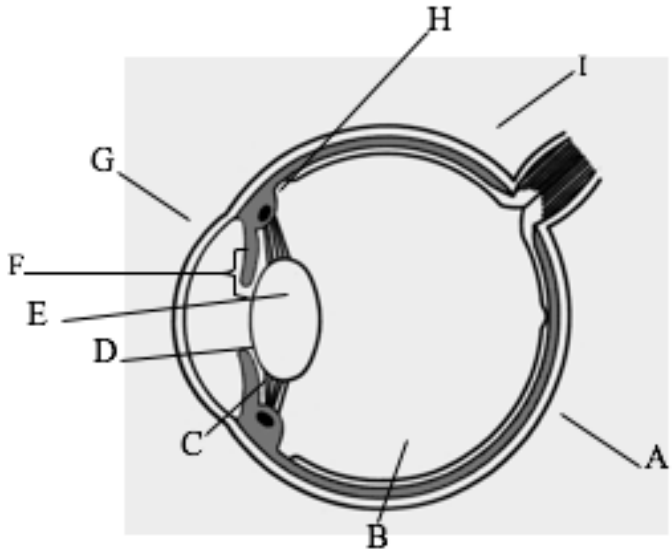
[2]

ii Complete the table by giving examples of sense organs and the stimuli they detect.

Sense organ	Stimulus detected
1 ear	
2	light
3 nose	
4	chemicals (taste)
5	temperature, pressure, touch, pain

[5]

2 The diagram shows a section through the eye



Match one of the letters from the diagram with each of the functions given in the table.

Function	Letter of part of eye
Carries nerve impulses from the eye to the brain.	
Controls the amount of light entering the eye.	
Alters its shape to focus on near or distant objects.	
Forms a transparent layer at the front of the eye.	
Holds the lens in position.	
Contains muscles which contract to focus on near objects.	
Forms a tough, outer layer to the eye.	
Contains light-sensitive cells.	
Becomes narrower in bright light.	

1 Fig. 2.1 shows a nerve cell.

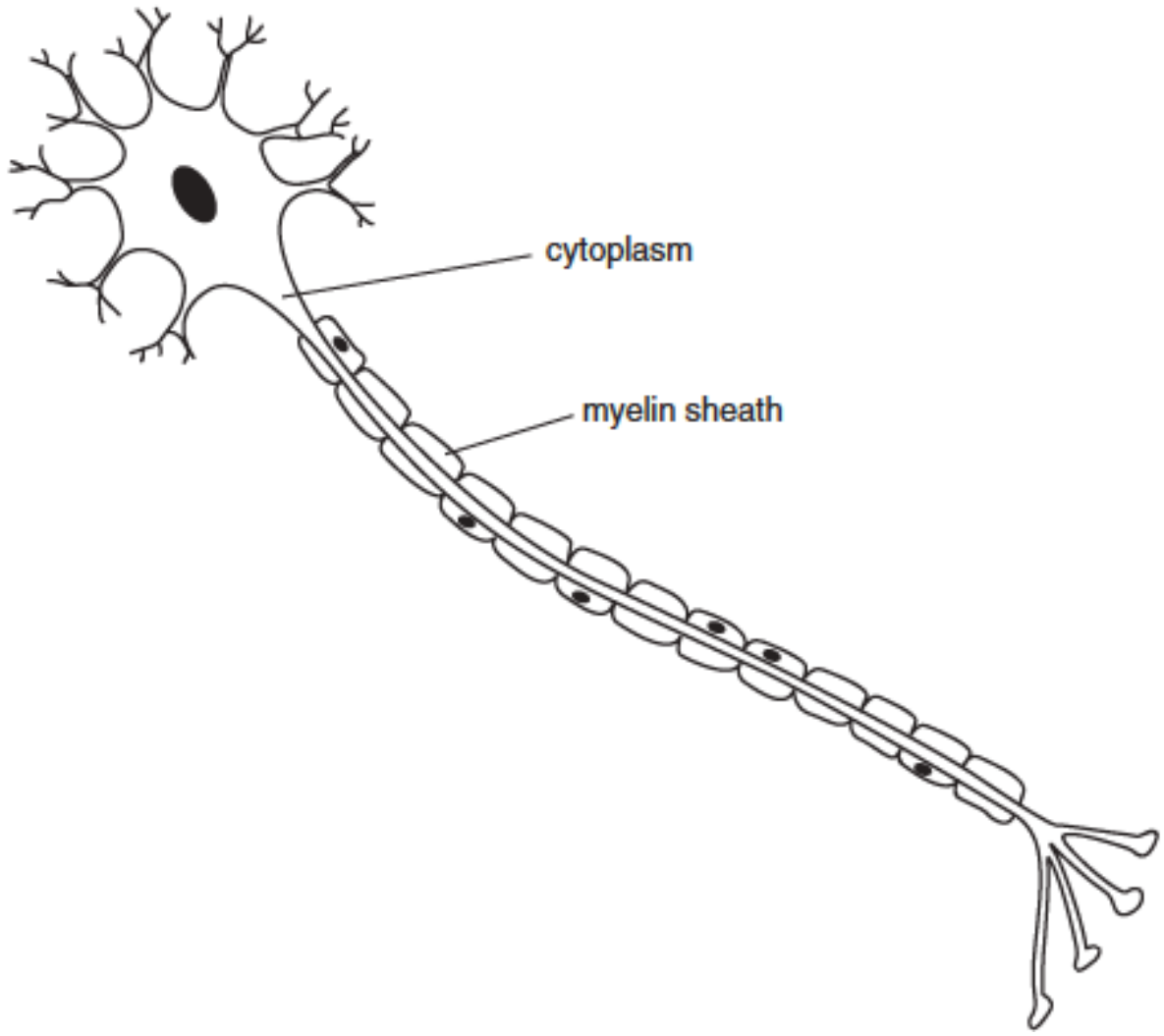


Fig. 2.1

(a) (i) Name the type of nerve cell shown in Fig. 2.1.

.....[1]

(ii) State two features that distinguish it from other types of nerve cell.

1. .....

2. .....[2]

(iii) Where, in the nervous system, is this cell located?

.....[1]

(b) Nerve cells are specialised cells.

Suggest how the parts of the nerve cell labelled in Fig. 2.1 enable the nerve **cell** function successfully.

cytoplasm .....

.....

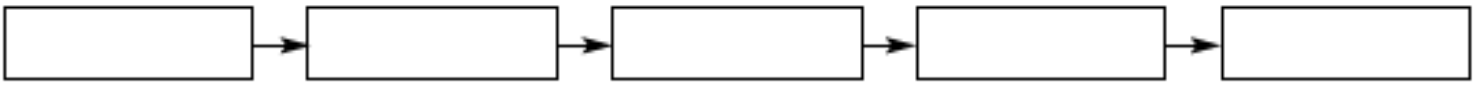
myelin sheath .....

.....[4]

(c) Reflexes involve a response to a stimulus.

(i) Complete the flow chart by putting the following terms in the boxes to show the correct sequence in a reflex.

coordinator **effector** **receptor** **response** **stimulus**



[2]

(ii) For the pupil reflex, identify each of the parts of the sequence by completing Table 2.1. The first has been done for you.

Table 2.1

part of sequence	part in pupil reflex
coordinator	brain
effector	
receptor	
response	
stimulus	

[4]

[Total : 14]

2 Fig. 2.1 shows a section through the eye with a ray of light passing through the muscles labelled **A**, **B**, **C** and **D**.

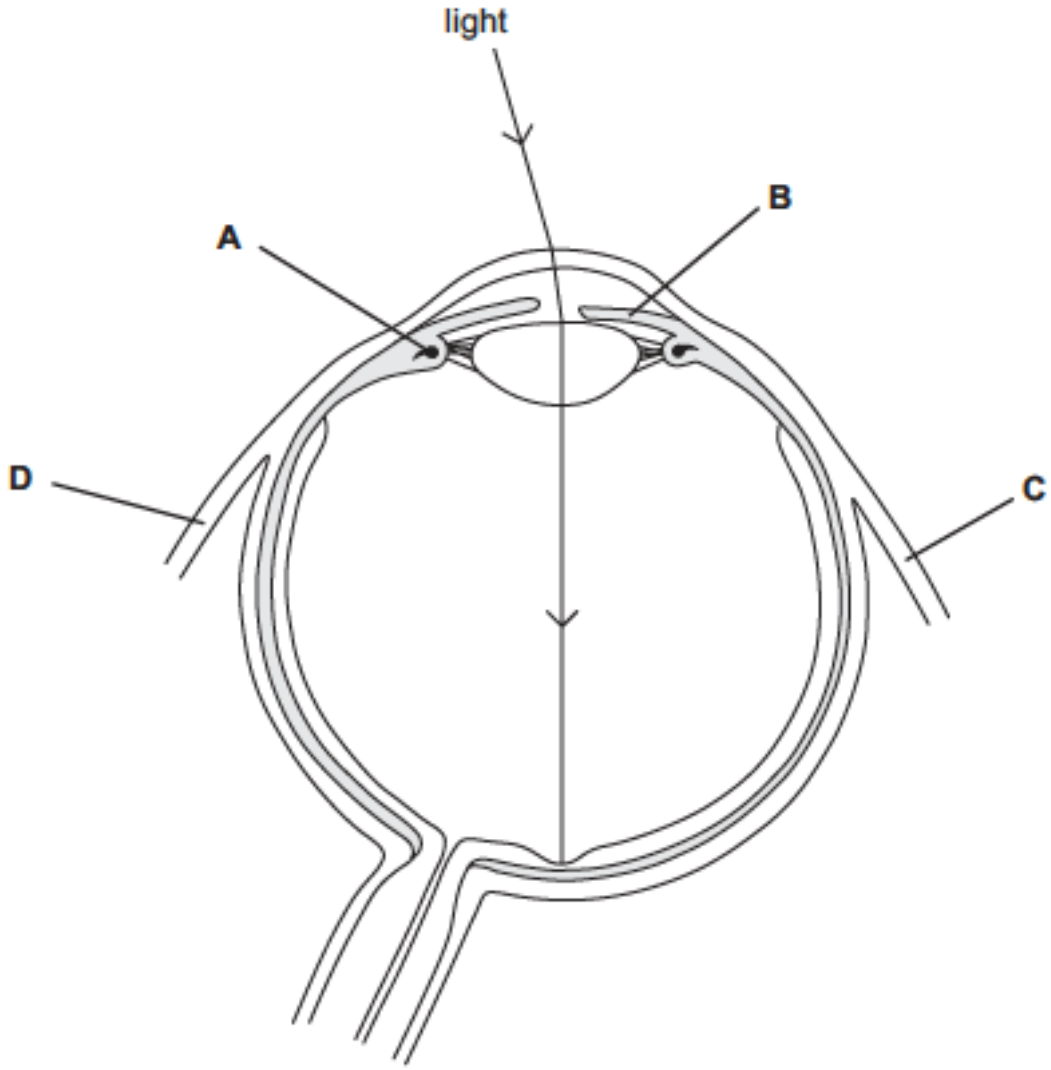


Fig. 2.1

(a) Complete the table.

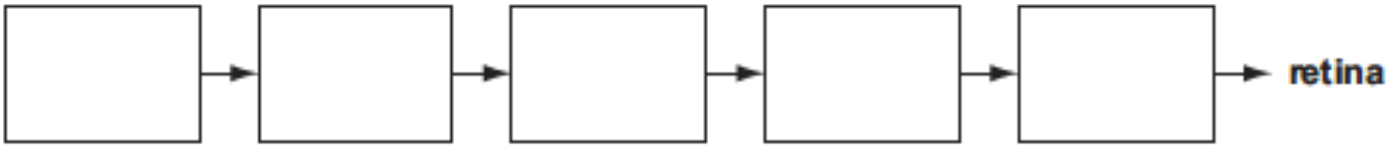
part	name of muscle	effect of contraction
A	.....	allows the lens to become fatter for focusing on close objects
B	iris circular muscle	....

[2]

b Light passes through parts of the eye to reach the retina.

Complete the flow chart by putting the following terms in the boxes to show the **correct** order that the light passes through them.

aqueous humour **cornea** **lens** **pupil** **vitreous humour**



[2]

c The retina contains rods and cones.

Complete the table to distinguish between rods and cones.

	type of light detected	distribution in the retina
rods	.....	....
cones	.....	....

[4]

3 Jasmine went into a dark room from a bright corridor.

(a) Fig. 4.1 represents Jasmine's right eye before and after entering the dark room.

before entering a few seconds **after** entering

Fig. 4.1

(i) Complete Fig. 4.1 by **drawing** the appearance of the pupil and iris

1. before entering the dark room, [1]

2. a few seconds after entering the dark room. [1]

(ii) Label the following parts of the eye on the first diagram in Fig. 4.1.

iris **pupil** **sclera** [3]

(b) Explain how the size of the pupil was changed when Jasmine went into the dark room.

.....

.....

..... [2]

(c) Explain why Jasmine could see shapes but **not** colours in the dark room.

.....

.....

.....

..... [3]

[Total: 10]