

Do not write
outside the
box

0 4 . 2 Explain why a long-sighted person has difficulty seeing near objects clearly. **[2 marks]**

0 4 . 3 Long-sightedness can be corrected by wearing spectacles.
Describe how spectacle lenses can correct long-sightedness. **[3 marks]**

11

Turn over ►



Question	Answers	Extra information	Mark	AO / Spec. Ref.
04.1	ciliary muscles contract		1	AO1 4.5.2.3
	(so ciliary muscles have a) smaller diameter		1	
	(so) suspensory ligaments loosen / slacken	do not accept 'relax'	1	
	(so) lens thickens or lens becomes more curved / rounded	allow lens becomes fatter ignore lens becomes bigger	1	
	(thicker) lens is more convergent	allow light rays bent (inwards) more or light refracted more	1	
	light rays / image focused on retina	allow light rays meet on retina	1	
04.2	eye(-ball) is (too) short or lens cannot be thickened enough	allow ciliary muscles (too) weak or lens not (sufficiently) elastic	1	AO1 4.5.2.3
	(so) light 'focuses' behind retina	allow (so) image forms behind retina	1	
04.3	convex / converging lens	allow shape described eg thicker in middle	1	AO1 4.5.2.3
	light rays bent / refracted (inwards) more	allow changes direction of light rays further inwards	1	
	light rays focused on retina	allow light rays brought to a point on retina or light rays converge on retina or focused /clear image forms on retina	1	
Total			11	