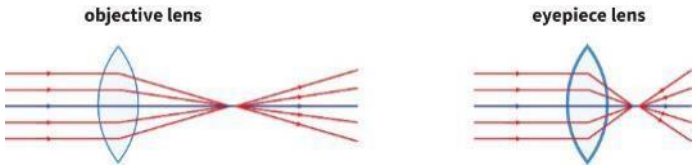


Question	Answers	Extra information	Mark
1(a)	luminous – gives out light transparent – you can see through it translucent – light travels through it, but you cannot see through it opaque – does not allow light through it	2 marks for two correctly matched 1 mark for one correctly matched	3
(b)	colourless glass is opaque – false the Moon is luminous – false tissue paper is translucent – true		1 1 1
2(a)	specular mirrors diffuse paper		1 1 1 1
(b)	B		1
(c)	C		1
(d)	false		1
3	angle B normal more material 1		1 1 1 1
4(a)	Clockwise from top left: optic nerve cornea lens iris retina		1 1 1 1 1

Question	Answers	Extra information	Mark
(b)	a hole where light goes into the eye		1
(c)	pupil – aperture retina – photographic film or CCD eyelid – lens cap	1 mark for one correctly matched	2
5(a)	violet light is refracted more than red light – true refraction does not depend on colour – false different colours are slowed down by different amounts – true		1 1 1
(b)	A blue filter – transmits blue light. A red filter – absorbs blue light. A green book – reflects green light. A black mat – absorbs all colours of light.	2 marks for two correctly matched 1 mark for one correctly matched	3
6(a)	the electric light		1
(b)	you/the cat/the chair		1
(c)	light is emitted by the electric light it reflects off the cat and into your eyes		1 1 1
7(a)	ray from the surface of the water where the ray hits that goes into the eye straight line drawn		1 1
(b)	it bends away from the normal it speeds up		1 1
(c)	B		1
8(a)	independent variable – type of material dependent variable – amount of light		1 1
(b)	bar chart		1
(c)	the type of material is categoric/a word/name		1

Question	Answers	Extra information	Mark
9(a)	it was very difficult to devise an experiment that would measure the time the time is very short and there were no timing devices sensitive enough at the time		1 1
(b)	ratio of times = 40 min : 8 min = 5 : 1 Jupiter is 5 times further from the Sun than Earth is 5 × 150 million km = 750 million km		1 1 1
10(a)	the distance from the lens to the focal point		1
(b)	 <p>objective lens eyepiece lens</p>	1 mark for correct focal lengths 1 mark for correct thicknesses of lenses (eyepiece lens should be thicker than objective lens)	2
(c)	the eyepiece lens is thicker so refracts the light more so the focal point is closer to the lens		1 1 1
SPACED LEARNING QUESTIONS			
11(a)	high second hertz		1 1 1
(b)	amplitude		1
(c)	pull the string harder		1
12(a)	area of the parachute speed it is falling		1 1

Question	Answers	Extra information	Mark
(b)	the force of Earth on the parachute is bigger than the force of the air on it OR the weight is greater than the drag so there is a resultant force downwards		1 1
(c)	the forces are balanced/equal and opposite/cancel out/weight is equal to drag		1
(d)	it will take longer for the speed to increase enough for the air resistance to equal the weight		1 1