



EXAM PAPERS PRACTICE

Question number	Answer	Mark
1(a)(i)	D	(1)

Question number	Answer	Mark
1(a)(ii)	C	(1)

Question number	Answer	Mark
1(a)(iii)	cerebrum	(1)

Question number	Answer	Mark
1(b)	An explanation that makes reference to: identification – knowledge (1 mark) and reasoning /justification – knowledge (1 mark): <ul style="list-style-type: none">embryonic stem cells can be stimulated to produce cells of the retina (1)which can be transplanted into a patient's eye to replace the damaged cells (1)	(2)

Question number	Answer	Mark
1(c)	Any three improvements from the following: <ul style="list-style-type: none">vary the time for computer usage (1)the activity used on the computer must be the same for each person (1)control the intake of food/drink/drugs before and during the test (1)repeat the test at different times of the day (1)repeat the test using more people (1)	(3)

Question number	Answer	Additional guidance	Mark
1(d)(i)	<ul style="list-style-type: none">$\frac{0.258 + 0.685 + 0.236 + 0.246 + 0.268}{5} = 0.339$ (1)339 (ms) (1)	award full marks for correct numerical answer without working	(2)

Question number	Answer	Mark
1(d)(ii)	<ul style="list-style-type: none">it is the median value	(1)



EXAM PAPERS PRACTICE

Question Number	Answer	Mark
Q02(a)i	structure A – dendron / dendrite structure B – nucleus answers must be in the correct order	(2)

Question Number	Answer	Acceptable answers	Mark
2(a)(ii)	B <input checked="" type="checkbox"/> electrical impulses		(1)

Question Number	Answer	Acceptable answers	Mark
2(a)(iii)	A description to include: insulates the (electrical) impulse / insulates the {axon / neurone} (from surrounding tissue) (1) allows quicker (electrical) conductance (1)	 accept: speeds up transmission / sends {impulses / signals} faster ignore references to protection of the axon ignore reference to messages	(2)

Question Number	Answer	Mark
Q02aiv	synapse(s) / synaptic cleft / synaptic gap	(1)



Question Number	Answer	Acceptable answers	Mark
2(b)	<p>A description linking four of the following</p> <p>{receptor} detects a stimulus (1)</p> <p>sensory neurone passes (impulse) to {relay neurone / spinal cord / CNS} (1)</p> <p>relay neurone in spinal cord /CNS (1)</p> <p>relay neurone passes (impulse) onto motor neurone (1)</p> <p>motor neurone passes (impulse) to {effector / muscle /gland} (1)</p> <p>{effector / muscle /gland} initiates response (1)</p>	<p>accept sensory neurone to motor neurone for 1 mark</p>	(4)

Total for question 2 = 10 marks



Question number	Answer	Mark
3(a)(i)	D optic nerve The only correct answer is D <i>A is not correct because the cornea does not carry impulses to the brain</i> <i>B is not correct because the iris does not carry impulses to the brain</i> <i>C is not correct because the lens does not carry impulses to the brain</i>	(1)

Question number	Answer	Additional guidance	Mark
3(a)(ii)	iris	accept radial muscles / circular muscles	(1)

Question number	Answer	Mark
3(b)	An answer linking four from: <ul style="list-style-type: none">• cone cells (1)• (cone cells) responsible for colour vision (1)• rod cells (1)• (rod cells) detect intensity of light (1)• (both) send impulses to the brain (1)	(4)



Question number	Answer	Mark
3(c)	antibiotics / antibacterials / named antibiotics	(1)

Question number	Indicative content	Mark
*3(d)	<p>Short-sightedness</p> <ul style="list-style-type: none">• eyeball too long• cornea too curved• lens too curved / too convex• light refracted too much by cornea / lens• light rays not brought to a focus on retina• light rays focused in front of retina <p>Long-sightedness</p> <ul style="list-style-type: none">• eyeball too short• cornea not curved enough• lens too thin /not convex enough• light refracted too little by cornea / lens• light rays not brought to a focus on retina• light rays focused behind retina	(6)