

Question	Answers	Extra information	Mark	AO / Specification reference
01.1	distance the ruler fell		1	AO2 4.5.2.1
01.2	any one from: <ul style="list-style-type: none"> • drop the ruler from the same height each time • let the ruler drop without using any force • use same ruler each time • thumb should be same distance from the ruler at the start carry out the experiment with the lower arm resting in the same way on the table		1	AO2 4.5.2.1
01.3	0.39 / result 3, left hand		1	AO2 4.5.2.1
01.4	0.25		1	AO2 4.5.2.1 MS2b, 2f
01.5	the mean for the left hand results was quicker than the mean for the right hand results		1	AO3 4.5.2.1
01.6	there is very little difference between the left and right handed results / a very small sample was used		1	AO3 4.5.2.1
02.1	the regulation of internal conditions in response to external or internal changes		1	AO1 4.5.1
02.2	blood glucose concentration body water concentration		1 1	AO1 4.5.1

02.3	nervous automatic receptors coordination centres effectors		1 1 1 1 1	AO1 4.5.1
03.1	independent variable - number of times stimulus was repeated dependent variable - reaction time control variable - Use the same computer key	two marks for all 3 boxes correct one mark for 1 or 2 boxes correct	2	AO2 4.5.2.1
03.2	repeat number 7 (0.45)		1	AO2 4.5.2.1
03.3	distraction	accept any other sensible suggestion	1	AO3 4.5.2.1
03.4	the more times the experiment is repeated the faster the person's response time / a person's reaction time to a situation can improve with learning		1	AO3 4.5.2.1
04.1	maintenance of a constant internal environment		1	AO1 4.5.1
04.2	pH temperature	allow enzyme concentration / substrate concentration for a max of 1 mark	2	AO1 4.5.1 4.2.2.1
04.3	occur without thought / conscious activity		1	AO1 4.5.1

04.4	any six from; <ul style="list-style-type: none"> • consist of receptors, co-ordination centres and effectors • receptors detect stimuli • example for receptor stated such as light / sound / temperature / pressure / other named receptor • co-ordination centre processes information • co-ordination centre named – brain / spinal cord / pancreas / other named control centre • effectors bring about a change • named effector – muscle /gland response described – muscle contracts / gland secretes hormone		6	AO1 4.5.1
05.1	a stimulus a receptor an impulse The brain an effector		1 1 1 1 1	AO1 4.5.2.1
05.2	muscle gland		1 1	AO1 4.5.2.1
05.3	relay neurone - transmits impulses within the CNS motor neurone - transmits impulses between the CNS and effectors sensory neurone - transmits impulses between receptors and the CNS	two marks for all 3 correct. Award one mark for 1 correct	2	AO1 4.5.2.1
05.4	synapse		1	AO1 4.5.2.1
06.1	blinking coughing		1 1	AO2 4.5.2.1

06.2	rapid automatic		1 1	AO1 4.5.2.1
06.3	B D C A	three marks for all four correct sentence positions two marks for two or three correct sentence positions one mark for one correct sentence position	3	AO2 4.5.2.1
07.1	blood glucose concentration body temperature		1 1	AO1 4.5.1
07.2	receptors - detect changes in the environment effectors - bring about responses coordination centres - receive and processes information	two marks for all 3 correct. Award one mark for 1 correct	2	AO1 4.5.1
07.3	brain / spinal cord / pancreas		1	AO1 4.5.1
08.1	whether caffeine has been drunk or not		1	AO2 4.5.2.1
08.2	height ruler was dropped from / rest hand on table / don't apply a force when dropping the ruler / amount of caffeine taken		1	AO2 4.5.2.1
08.3	speeds up decreases		1 1	AO3 4.5.2.1
08.4	repeat investigation / use a larger sample size	accept any sensible suggestion	1	AO3 4.5.2.1
09.1	stimulus		1	AO2 4.5.1 4.5.2.1
09.2	brain		1	AO2 4.5.1 4.5.2.1

<p>09.3</p>	<p>driver would have reacted faster to the insect responded with a reflex action the conscious part of the brain was not involved / impulse relayed via CNS</p>		<p>1 1 1</p>	<p>AO2 4.5.2.1</p>
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