## Control and Communication Mark Scheme

5.				D						
	7.			А						
8.	(a)	(i) (ii)	C =	low glucagon gan X = panci	B = high D = insulin reas	1 1 1 1		2		
	(b)			y 2 features to Made of proceed of Chemical measures and the Released or endocrine of Carried in Ean have a effect	otein nessengers some (targ it receptors produced l glands/syst blood	s by		2	1 ma	ark for each feature
6.	(a)	)		Electrical imp				1		
	(b)		J = Sensory (neuron) - carries/sends message/impulse/signal from sense organ→ relay neuron/CNS/spinal cord  K = Motor (neuron) - carries/sen message/impulse/signal from CNS/Relay neuron/spinal cord→ muscle/organ/effector  L = Relay (neuron) - carries/sen message/impulse/signal from sensory→ motor neuron/within CNS			<b>→</b> nds		2	1 mark for correct name and 1 mark for origin → destination. Brain is not an acceptable alternative to CNS. If no named neuron, award function mark based on the box ticked. If no box/wrong box ticked award function mark based on name given. Accept intermediate/interinstead of relay neuron.	
	(c)	)	C	0.01				1	l	

	5		С			
9.	(a)		They have receptors/receptor proteins  AND  these are specific/match this hormone.	1	Both parts required for mark.  Any reference to active site/substrate negates.	
	(b)		Endocrine	1	Named example not acceptable alone but would not negate the correct response, provided it is clearly stated as an example.	
	(c)		Glucagon	1		
9.	(a)		Cerebellum	1		
	(b)		1. Detected by receptors (1)  2. Sent by electrical impulse/ signal (1)  3. (Message/information/ impulse goes) from sensory to relay neuron/sensory → relay neuron (1)  4. Across synapse  OR  Chemical transfer between neurons (1)	4	If the brain is mentioned as being involved in the process this negates one correct point.  Not acceptable - reference to 'electrical impulse' crossing synapse	
10.	(a)	(i)	Pancreas	1	Not acceptable - pancrease	
		(ii)	Glucose is needed to release/give out energy  OR  If cells do not have glucose they release/give out less/no energy	1		
	(b)	(i)	S	1		
		(ii)	P	1		
	(c)		Receptor (protein)	1		
	9.		В			

10.	Α	
11.	D	
12.	D	