

Assessment Schedule – 2006

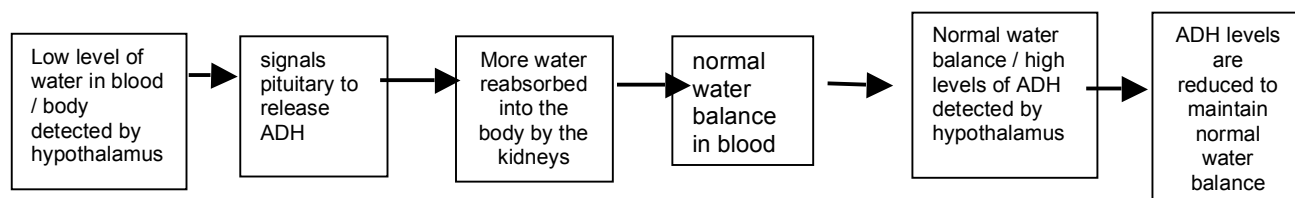
Human Biology: Describe maintenance of normal body functioning (90177)

Evidence Statement

Question	Evidence Contributing to Achievement	Evidence Contributing to Achievement with Merit	Evidence Contributing to Achievement with Excellence
ONE (a)	<i>Correctly names (or abbreviates) any TWO hormones eg ADH/ GH/ TSH/ LH/ FSH</i>		
(b)	<i>Describes how the pituitary gland acts using a specific example, eg: Pituitary produces ADH that controls uptake of water in kidney. OR Describes master gland concept, eg: Pituitary produces hormones that control other (endocrine) glands which produce hormones.</i>	<i>Explains how the pituitary works as the 'master gland'. Answer links the controlling of other glands to the production of their own hormone[s] using a named example, eg:</i> <ul style="list-style-type: none"> • FSH stimulates the ovary to produce oestrogen • TSH stimulates the thyroid to produce thyroxine. 	
(c)	(i) Adrenal gland(s) AND (ii) (Above/ on top of) kidney(s). <i>Both answers correct.</i>		
(d) (i) & (ii)	<i>Describes ONE effect of adrenaline on the target organ / process (ie what it does), eg:</i> <ul style="list-style-type: none"> • breathing rate increases/ deepens • heart rate/ pulse increases • blood vessels of skin/ digestive system constrict • body muscles tense • glycogen converted to glucose 	<i>Explains ONE effect linked to preparing the body for an emergency, ie why it does it.</i> <ul style="list-style-type: none"> • heart beat increases/ breathing increases or deepens to send more oxygen or glucose to the body muscles • blood vessels of skin/ digestive system constrict to send more blood to the muscles • body muscles tense to prepare for 'fight or flight' • glycogen converted to glucose to provide energy (to muscles). 	

	Evidence Contributing to Achievement	Evidence Contributing to Achievement with Merit	Evidence Contributing to Achievement with Excellence
TWO (a)	<i>Describes effect on the body of sweating in terms of the body becoming dehydrated.</i>		
(b)	<i>Describes ONE of:</i> <ul style="list-style-type: none"> • blood brought closer to the skin surface • capillaries dilate • to lose body heat • to cool down. 	<i>Explains why flushed face happens, eg:</i> Blood vessels/ capillaries dilate to increase blood flow to face/ skin. Linked to ONE of <ul style="list-style-type: none"> • more heat lost/ radiated to air • increase blood cooling by air. • OR • Blood vessels / capillaries dilate to increase blood flow to face / skin which produces flushed effect.	
TWO (c)	<i>Describes 'how' in terms of</i> <ul style="list-style-type: none"> • Production of the hormone ADH • Kidneys absorbing more water back into the body. <p><i>Both ideas needed.</i></p>	<i>Explains 'how' in terms of</i> <ul style="list-style-type: none"> • Stimulation/ inhibition of ADH by the pituitary linked to • The levels of water in the blood/ body. Explained either through written answer or flow diagram.	<i>Discussion of how body restores its water balance in terms of</i> <ul style="list-style-type: none"> • Blood water levels detected by the hypothalamus which signals the pituitary to produce ADH • ADH stimulates water uptake from kidney tubules back into body • Restoration of normal water balance / higher levels of ADH causes hypothalamus to stop signalling production of ADH AND • illustrated by an appropriate flow diagram that has arrows correctly linking the production of ADH to the level of water in the body, eg (see diagram):

TWO (c) (Excellence) continued: flow diagram for example:



	Evidence Contributing to Achievement	Evidence Contributing to Achievement with Merit	Evidence Contributing to Achievement with Excellence
THREE (a)	<p><i>Describes ONE short-term effect of alcohol, eg:</i></p> <ul style="list-style-type: none"> • heart works harder • blood vessels widen (dilate) • body loses more heat • liver works harder • person vomits • kidneys produce more urine • dehydrates body • person suffers headache / nausea / dizziness / hangover • slows reactions. 		
3(b)	<p><i>Description of long term effects of EITHER alcohol OR tobacco. Any two of:</i></p> <p>Alcohol, eg:</p> <ul style="list-style-type: none"> • brain damaged / brain cells killed • heart [muscle] damaged • liver cells damaged/ destroyed • stomach lining irritated/ damaged • pancreas irritated/ damaged • nervous system – may become addicted. <p>Tobacco, eg:</p> <ul style="list-style-type: none"> • nervous system – addictive • lungs – cilia destroyed; alveoli damaged; increase in lung diseases [cancer; emphysema; chronic bronchitis] • heart and circulation – blood vessels constrict; heart rate increases; blood pressure increases; risk of CHD increases; increased risk of clotting; white cells anaesthetised; poor fitness. • skin – circulation reduced; skin dries and wrinkles • digestive system – ulcer risk increases; blood sugar increases; teeth stain • cancers – increased risk of all types of cancer. 	<p><i>Explanation of how at least one process / function is affected.</i></p> <p>Alcohol, eg:</p> <ul style="list-style-type: none"> • Brain cells damaged causes loss of memory / impaired judgement / impaired learning. • Heart damage impairs functioning and may lead to heart failure. • Liver damage impairs functioning and may lead to cirrhosis/ hepatitis/ cancer. • Stomach lining irritated, may lead to ulceration. • Pancreas irritated, may lead to impaired flow of digestive enzymes and so digestive disorders. Possible link to diabetes. • Addiction means that the person cannot stop drinking, so increasing the damage to all systems, leading to death. <p>Tobacco, eg:</p> <ul style="list-style-type: none"> • Addiction means that the habit is very difficult to stop. • Lungs cannot clean efficiently; alveoli damage means less surface for gas exchange. • Heart is more prone to CHD leading to death. Damage to lungs and heart means that levels of fitness drop. • Digestive system damage lead to digestive upsets/ ulceration/ greater difficulty in digesting food. • Risk and death from all types of cancers, especially those of the respiratory system. 	<p><i>Discussion of the impact on normal body function by the named process being affected.</i></p> <p>Alcohol, eg:</p> <ul style="list-style-type: none"> • Heart damage leads to stroke and / or heart failure which can lead to reduced quality of life / hospitalisation and / or death. • Loss of memory / impaired judgement leads to reduced quality of life / physical damage etc. • Impact of digestive disorders on quality of life / normal body function. • Impact of addiction on quality of life / maintaining normal life functions. <p>Tobacco, eg:</p> <ul style="list-style-type: none"> • lung damage and reduced gas exchange leads to reduced fitness, difficulty exercising, reduced quality of living. • Heart damage affects ability to work / exercise etc. Ongoing health issues leading to immobility / reduced longevity / death. • Impact of digestive disorders on quality of life / maintaining normal body function. • Effect due to cancer on maintaining normal life functions, life expectancy, family, etc.

Judgement Statement**Biology: Describe maintenance of normal body functioning (90177)**

Achievement	Achievement with Merit	Achievement Excellence
FIVE questions answered correctly. Minimum $5 \times A$	SIX questions answered correctly, including at least THREE at Merit level. Minimum $3 \times M + 3 \times A$	SIX questions answered correctly, including at least TWO at Merit level and at least ONE at Excellence level. Minimum $1 \times E + 2 \times M + 3 \times A$