

Question	Answer	Marks	AO Element	Notes	Guidance
1	kidney ;	1			
2	liver ;	1			
3	<p>1 deamination (of amino acids) ;</p> <p>2 removal of nitrogen-containing part of amino acids ;</p> <p>3 to produce urea ;</p> <p>4 urea / AW, passes into blood ;</p> <p>5 breakdown of, hormones / toxins / drugs / excess vitamins ;</p> <p>6 breakdown of, worn out red blood cells ;</p> <p>7 excretory products put in bile ; e.g. cholesterol</p>	3		max [3]	

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4	urea ; ammonia ; uric acid ; creatinine ; (named) salt / ions ; e.g. Na^+ , Cl^- , Mg^{2+} , Ca^{2+} , HCO_3^- water ; (named) toxins ; hormones ;	2		max [2]	ignore glucose / sugar / urine / amino acids
5	(in,) blood / plasma ;	1			
6	pancreas ;	1			
7	<i>the following three boxes ticked</i> bungee jumping ; sitting an exam ; hearing a sudden noise ;	3			

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8	muscle(s) in arteriole contract; arterioles constrict/ vasoconstriction occurs; less blood flows to, skin/ capillaries; decrease in loss of heat (from the body) by, radiation/ conduction/ convection; AVP;	3		max [3]	I capillaries, vasoconstrict/ constrict A 'stops blood flow to skin' R movement of arteriole/ capillaries away from the surface of skin/ AW A prevent heat loss by, radiation/ conduction/ convection e.g. ref to shunt vessel(s)/ blood taking a deeper route
9(a)(i)	eaten/ absorbed, a (sugary/ high carbohydrate) meal/ AW; (secretion/ effect, of) adrenaline; (secretion/ effect, of) <u>glucagon</u> ; dehydration/ loss of water;	1	AO1	max [1]	

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9(a)(ii)	used in <u>respiration</u> ; (named) exercise/ physical activity; hungry/ fasting/ starvation; (secretion/ effect, of) insulin;	1	AO1	max [1]	
9(a)(iii)	liver; muscle; kidney; testes;	2	AO1	max [2]	
10	conduction / transport / transfer of, water / mineral ions ; support ;	2			
11	xylem ;	1			
12	xylem ; phloem ;	2			
13	xylem labelled ; phloem labelled ; root hair labelled ;	3			

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14	letter A and a line drawn that ends on a palisade mesophyll cell ; letter B and a line drawn that ends on the xylem ;	2			
15	(upper) epidermis ;	1			
[Total: 30]					