

Question		Answer	Marks	Guidance
		<p>or systematic sampling / place quadrats at, set / pre-determined, intervals along the transect</p> <p>or random sampling using quadrats in, selected areas / strata ✓</p> <p>pooter / sweep nets / pitfall traps / light traps / tree-beating ✓</p>		<p>(N.B. only allow random sampling in context of stratified sampling)</p> <p>ALLOW any suitable method of trapping insects</p> <p>IGNORE capture mark recapture</p>
	iii	<p>Woodland = (k)g m⁻² yr⁻¹ / (k)J m⁻² yr⁻¹</p> <p>AND</p> <p>Lake = (k)g m⁻³ yr⁻¹ / (k)J m⁻³ yr⁻¹ ✓</p>	1	<p>ALLOW (k)g h⁻¹ yr⁻¹ / (k)J h⁻¹ yr⁻¹ / tonnes h⁻¹ yr⁻¹ / (k)g (k)m⁻² yr⁻¹ / (k)J (k)m⁻² yr⁻¹</p> <p>ALLOW (k)g (d)m⁻³ yr⁻¹ / (k)J (d)m⁻³ yr⁻¹ / (k)g (k)m⁻³ yr⁻¹ / (k)J km⁻³ yr⁻¹</p> <p>ALLOW hectare⁻¹ for h⁻¹</p> <p>ALLOW y for yr</p> <p>DO NOT ALLOW 'per'</p> <p>ALLOW '/' instead of ⁻¹</p>
6	a	<p>Level 3 (5-6 marks)</p> <p>Correctly describes similarities and differences between the processes</p> <p><i>There is a well-developed line of reasoning, which is clear and logically-structured and uses scientific terminology at an appropriate</i></p>	6	<p>Indicative scientific points may include</p> <p><i>Similarities:</i></p> <ul style="list-style-type: none"> • Small molecules are filtered from/diffuse out of the blood.

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	<p><i>level. All the information presented is relevant and forms a continuous narrative.</i></p> <p>Level 2 (3-4 marks) Correctly describes a similarity and a difference between the processes</p> <p><i>There is a line of reasoning presented with some structure and use of appropriate scientific language. The information presented is mostly relevant.</i></p> <p>Level 1 (1-2 marks) Correctly describes similarities or differences between the processes</p> <p><i>The information is communicated with only a little structure. Communication is hampered by the inappropriate use of technical terms.</i></p> <p>0 marks No response or no response worthy of credit.</p>		<ul style="list-style-type: none"> • Both processes occur in capillaries. • Large molecules/proteins/ cells, remain in the blood. • High (hydrostatic) pressure in both processes. • Many molecules (e.g. water, sugars, ions) are reabsorbed back into capillaries. • Blood vessels become narrower to maintain (hydrostatic) pressure • Hydrostatic pressure greater than oncotic pressure in both • Neutrophils / lymphocytes, can pass through in both • Both involve basement membranes <p><i>Differences:</i></p> <ul style="list-style-type: none"> • Filtrate enters the Bowman’s capsule and then the PCT in the kidney, but tissue fluid bathes cells/enters intercellular space. • Molecules that are not reabsorbed by capillaries form urine in the kidney, but molecules that are not reabsorbed from

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					tissue fluid will, enter cells / form lymph. • Blood filtered through 3(named) layers in ultrafiltration, but only 1 (named) layer in formation of tissue fluid • knot of capillaries in ultrafiltration but a network of capillaries in formation of tissue fluid
6	b	i	age ✓ (because) GFR / kidney function , declines with age ✓ gender ✓ (because) men and women have different muscle mass ✓ exercise / muscle activity / muscle mass / fitness / pregnancy / body mass ✓ (because this will) alter, metabolism of creatine (phosphate) / production of creatinine ✓ diet ✓ (because this will) affect levels of, creatine (phosphate) / creatinine (in the blood) ✓ ethnicity / genetic make up ✓ different alleles, affect metabolism of creatine (phosphate)	4 max	Mark first two characteristics given Only award mark for explanation if correctly linked to characteristic IGNORE chances of kidney failure increase with age ALLOW 'more / less, creatinine / product (in blood)' ALLOW 'more / less, creatine (in muscle)' ALLOW use of creatine supplements

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			/ production of creatinine ✓		
		ii	<i>idea that</i> large proteins, should remain in the blood / not enter, Bowman's capsule / nephron ✓	1	e.g. 'proteins / albumin, too large to cross the basement membrane' ' proteins are too large to be filtered and be present in the urine'
			Total	70	