Question number	Answer	Notes	Marks
1 (a) (i)	1. (fo web) order correct; 2. a arrows correct;	plant, hare, fox, cats and eagles need to be in correct order allow order only if in pyramid	2
(ii)	herbivore / primary consumer;		1
(b) (i)	young heather;		1
(ii)	1. re food / eq; 2. re nutritious food / eq; 3. sier to digest / softer / less spikes / eq; 4. f er other animals / competition from other herbivores; 5. mouflage / fewer predators / protection from predators / shelter from predators / hide in long grass;	2. ig re better quality / taste 4. ig re competition alone / intraspecific	3
(c)(i)	32;;	allow one for 224 ÷ 700	
(ii)	bilberry;		1

(d)	1. p ced at random; 2. me sized quadrat	ignore repeat	1

Total 11 marks

Question number	Answer	Notes	Marks
2(a)	1. broken down / digested; 2. bacteria / fungi / microorganisms / saphrophytes / eq;	Ignore eaten	2
(b)	1. (dead) plants / humus then earthworms then birds; 2. arrows correct;	Earthworms in middle =1	2
(c) (i)	20;		1
(ii)	C;		1
(iii)	(yes) not enough repeats / may be anomalous / eq;	Ignore not enough soil	1

Total 7 marks

Question number	Answer	Notes	Marks
3 (a)			4

	Number
the number of different tertiary consumers	(1)
the number of trophic levels	4;
the number of food chains	4;
the number of different predators	3;
the number of different consumers	7;

Question number	Answer	Notes	Marks
3 (b) (i)	1. temperature / heat; 2. g vity; 3. moisture / dryness / water / eq;	Ignore food / predators / oxygen / smell	max 2
(ii)	difference for one mark: more in centre / less at edge; reasons for two marks: 1. ss light (in centre); 2. ference to predators / humans / eq; 3. re leaf litter/food (in centre); 4. ference to named abiotic factor such as water / temperature;	Allow converse Ignore safer / shelter unqualified More leaf litter to hide from predators = 2	max 3
(iii)	square drawn;	Allow small squares inside a large square	1
			Total 10 marks

Question number	Answer	Notes	Marks
4 (a)	1. wa er / eq; 2. avoid sweating avoid water loss / avoid dehydration; 3. avoid overheating / re iration produces heat / eq; 4. ss food available / less water in plants / eq;		3
(b)	1. avo the sun / avoid high temperature / avoid heat / to shade / avoid overheating / stay cool / cooler at night; 2. avo sweating / avoid water loss / avoid dehydration;		2
(c)	1. (eating) plant / plants contain water / grass; 2. spiration;	Ignore food / other animals	1 max
(d)	1. osmo)receptors; 2. ypothalamus; 3. pituitary glan 4. DH; 5. ADH) <u>increases</u> / <u>more</u> (ADH); 6. kidney / nephron; 7. collecting duct; 8. <u>ore</u> permeable; 9. eabsorption (of water) / water into blood;	Ignore less urine / less water in urine	6 max

Total 12 marks

Question number	Answer	Notes	Marks
5 (a) (i)	rice;		1
(ii)	(Asian) toad;		1
(b)	(sun)light; water / rain / moisture / eq; carbon dioxide / CO_2; minerals / ions / nutrients / salts / named mineral / eq; temperature / warmth;	ignore sun alone ignore humidity ignore weather / climate / pollution / global warming / drought / flooding / beetles / insects / pests	2
(c)	kills/destroys/reduce number of/remove beetles/consumers/pests; less rice eaten / eq;	because the beetles feed on the rice = 0 stop beetles eating rice = 1	2
3 (d)	idea of increasing number of toads/other organism/ predator; eats <u>beetles</u> / eq; OR capture / hunt mongoose / eq; increase toad population / less toads eaten / eq;	 reduce the amount of beetles eating rice = 1 introduce predator to control pest = 1	2
		Total	**8**