

0173 Level 3 Technicals in Land and Wildlife Management
0173-011/511 Level 3 Land and Wildlife - Theory Exam
March 2022 Mark Scheme

Q no.	Acceptable answer(s)	Guidance	Max mks	Ref
Q1	<p>1 mark each for any of the following, to a maximum of 4 marks:</p> <ul style="list-style-type: none"> • Humidity (1) • Atmospheric pressure (1) • Wind (1) • Temperature (1) <p>Any other suitable answer</p>		4	306 1.1 AO1
Q2	<p>1 mark for cause and 1 mark for effect, to a maximum of 4 marks:</p> <ul style="list-style-type: none"> • The sun's heating effect on water causes it to evaporate (1) which adds to the amount of water vapour in the atmosphere (1) • The sun's heating effect on ice causes it to melt (turning it from solid to liquid) (1) which allows run-off (1) • (The short-term effects of) the sun's heating causes transpiration in plants (1) which adds to the amount of water vapour in the atmosphere (1) • The sun dries out/hardens the soil (1) when it rains the water runs off rather than infiltrates the soil (1) <p>Any other suitable answer</p>		4	306 1.2 AO2
Q3	<p>1 mark for cause and 1 mark for effect, to a maximum of 4 marks:</p> <ul style="list-style-type: none"> • Free draining / sandy / large particle soils (1) so nutrients are washed away (down the profile) (1) • They are acidic soils (1) which limits nutrient availability (1) • The plants which grow on acidic soils are more difficult to break down by organisms (1) therefore fewer nutrients available / less nutrients are absorbed into the soil (1) <p>Any other suitable answer</p>		4	306 2.1 AO2

<p>Q4</p>	<p>1 mark each for any of the following, to a maximum of marks:</p> <ul style="list-style-type: none"> • Earth (1) • Footprints (1) • Faeces (1) • Smell (1) • Kills (1) • Observation seen (1) • Runs (1) • Hair (1) <p>Any other suitable answer</p>		<p>4</p>	<p>308 1.2 AO1</p>
<p>Q5</p>	<p>1 mark each for any of the following, to a maximum of 4 marks:</p> <ul style="list-style-type: none"> • The Act has resulted in an increased badger population (1) • Because the badger has full protection in law / it is illegal to injure/trap/take/ill-treat a badger (1) • Badgers are less likely to be baited (due to threat of prosecution) (1) so fewer are killed (1) • Badger sets are fully protected / cannot disturb/dig/damage/destroy/block/send a dog into a badger sett/ (1) so habitat is not being destroyed/disturbed (1) <p>Any other suitable answer</p>		<p>4</p>	<p>308 1.4 AO2</p>
<p>Q6</p>	<p>1 mark each for any of the following, to a maximum of 4 marks:</p> <ul style="list-style-type: none"> • When breeding, magpies defend a territory from other magpies in spring (1) • The resident magpie will attack the decoy bird and become trapped (1) • Its mate will hear the calls of the trapped bird and will investigate and possibly get caught (1) • If not caught, as the male feeds the female on the nest, she will have to stop incubating to feed (1) • New magpie pairs entering the area can be caught in the same way (1) 		<p>4</p>	<p>308 2.1 AO2</p>
<p>Q7</p>	<p>Answer:</p> <p>a) 1 mark for the following, maximum 1 mark.</p> <ul style="list-style-type: none"> • Top lever (1) <p>b) 1 mark for each of the following, maximum 2 marks.</p> <ul style="list-style-type: none"> • Safety catch / takes safety mechanism on/off (1) • Barrel selector switch / selects which barrel fires first (1) 		<p>3</p>	<p>309 1.1 AO1</p>

Q8	<p>1 mark each for any of the following, to a maximum of 2 marks:</p> <p>a) 14 years (1) b) 15 years (1)</p>		2	309 3.4 AO1
Q9	<p>1 mark each for any of the following, to a maximum of 3 marks:</p> <ul style="list-style-type: none"> • Increases max killing range (1) • Will reduce pattern density (1) • Reduces shot velocity (1) • Increases maximum fallout distance of shot (1) 		3	309 1.2 AO2
Q10	<p>1 mark for way 1 mark for explanation, to a maximum of 4 marks:</p> <ul style="list-style-type: none"> • Crushing (1) cells in the path of the projectile are crushed (1) • Cavitation (1) in the area surrounding the entry wound a large cavity forms (1) • Hydrostatic shock (1) an energy wave that travels through the body destroying tissue (1) • Fragmentation (1) create their own wound paths (1) <p>Any other suitable answer</p>		4	309 3.2 AO2
Q11	<p>1 mark each for any of the following, to a maximum of 2 marks:</p> <ul style="list-style-type: none"> • Male changes plumage for the breeding season (1) • Green head (1) • White chest (1) • Red flank / side (1) • Golden / yellow eyes (1) 		2	328 1.2 AO1
Q12	<p>1 mark each for any of the following, to a maximum of 2 marks:</p> <ul style="list-style-type: none"> • Coot (1) • Moorhen (1) <p>Any other suitable answer</p>		2	328 1.1 AO1
Q13	<p>1 mark each, to a maximum of 6 marks:</p> <ul style="list-style-type: none"> • Pair count (Spring Feb -March) (1) when the birds are pairing up (1) • Survey early morning/evening (1) this is when the birds are most active (1) 	Using thermal image camera for counts accepted.	6	328 4.1 AO2

	<ul style="list-style-type: none"> Using binoculars (from distance) (1) to avoid disturbance (1) <p>or</p> <ul style="list-style-type: none"> Brood counts (Aug-Oct) (1) when the young have fledged (1) Survey early morning/evening (1) this is when the birds are most active (1) Using binoculars (from distance) (1) to avoid disturbance (1) <p>Any other suitable answer</p>			
Q14	<p>1 mark each for any of the following, to a maximum of 2 marks:</p> <ul style="list-style-type: none"> Allows genetically strongest males to breed most successfully (1) As a polygamous species, allows breeding with many different females (1) They can use traditional sites where cocks and hens know where/when to go to allow breeding (1) <p>Any other suitable answer</p>		2	328 2.1 AO2
Q15	<p>Band 1 (1-4 marks) A brief discussion which shows little or no consideration of relevant information required, how and when this can be gathered and how it can then be used to inform management. Demonstrates basic knowledge and understanding of the overall requirements for a successful pheasant shoot, and management techniques to achieve these objectives, techniques to measure success and legislative requirements. The response is brief, under developed, lacks clarity and is not entirely relevant and/or accurate. There is little or no discussion around benefits and limitations of the proposed management techniques with few linkages to the site's physical and ecological characteristics, owner's objectives, resource requirements and potential difficulties in achieving these objectives within this specific scenario. The overall discussion is unstructured and incoherent. To access the higher marks in the band the discussion will be mainly relevant, accurate and include some relevant justifications.</p> <p>Band 2 (5-8 marks) A relevant discussion which clearly shows some consideration of a range of relevant information required, how and when this can be gathered and how it can then be used to inform management. Demonstrates reasonable breadth and depth of knowledge with reasonable understanding of the overall requirements for a successful pheasant shoot, and management techniques to achieve</p>	<p>Indicative content:</p> <ul style="list-style-type: none"> Identification and survey of species and numbers Change of crop / habitat management Breeding ecology and life cycle Habitat requirements Change and effect on land use Change and effect on land cover Pests and predators control – lethal and non-lethal Use of firearms / ammunition 	12	306 – 3.2, 4.1, 4.2, 4.3 308 – 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 3.1 3.2 309 – 1.2, 1.3, 1.4, 2.1, 2.2, 2.3, 3.2, 3.3, 3.4,

	<p>these objectives, techniques to measure success and legislative requirements. Some areas may be covered in more detail than others. Within this knowledge there is some evidence of discussion around benefits and limitations of the proposed management techniques with some linkages to the site's physical and ecological characteristics, owner's objectives, resource requirements and potential difficulties in achieving these objectives within this specific scenario. To access the higher marks in the band the discussion will be presented in a clear format much of which is mostly detailed, contains some justifications and most of the usage of terminology is appropriate.</p> <p>Band 3 (9-12 marks) A focussed and detailed discussion which shows thorough consideration of a wide range of relevant information that would be required, how and when this can be gathered and how it can then be used to inform management. Demonstrates good breadth and depth of knowledge and understanding of the overall requirements for a successful pheasant shoot, and management techniques to achieve these objectives, techniques to measure success and legislative requirements. Discussion is substantiated and supported with examples. There is detailed discussion of the relevant benefits and limitations of the proposed management techniques with strong linkages to the site's physical and ecological characteristics, owner's objectives, resource requirements and potential difficulties in achieving these objectives within this specific scenario. To access the higher marks in the band, the overall discussion is coherent and structured, with fully developed, relevant and supported recommendations and strong, appropriate use of specialist terminology.</p>	<ul style="list-style-type: none"> • Legislation of the use of firearms • Food chains and food webs • UK gamebird species • UK pest and predator species • Tracks and signs of locally occurring pests and predators • Level of protection afforded to a range of pest and predator species • Game population surveys 		<p>4.1, 4.2, 4.3</p> <p>328</p> <p>-</p> <p>1.1, 2.1, 2.2, 2.3, 2.4, 3.3, 4.1, 4.2, 4.3</p>
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