

0173 Technicals in Land and Wildlife Management

Test title: 0173-001/501 Theory Exam (1)

March 2018

Q	Acceptable answer(s)	Guidance	Max mks
1	1 mark each, up to 2 marks: (a) Fuel/petrol tank (1) (b) Leakage/incorrect fuel/polluted/lack of fuel, blocked fuel filter (1 mark for either)		2
2	Daily/weekly exposure - a prolonged exposure (1) 80+ dB/ chronic (losing hearing slowly) (1) Peak sound pressure – the instant/percussive/loud bang (1) 135+ dB/ acute (instant hearing loss) (1)		4
3	a: Population is the number of all the organisms of the same group or species (1) , which live in a particular geographical area (1) b: $30 \times 2.3 = 69$ young (1) $30 \times 2 = 60$ old (1) total $69+60 = 129$ total (1)	<i>If a learner has shown no working and has just given the final answer, it is worth only 1 mark.</i>	5
4	(a) Sunlight (1) (b) Primary producer (1) (c) When energy is transferred at each level some is lost as heat and some is used by the organism (1) so only a small proportion is passed up the food chain (1) so a lot of grass is needed to support voles (1) .		5
5	When Lynx are at low numbers then hare numbers can increase rapidly (1) Lynx respond through immigration (1) and/or increased breeding (1) to result in natality > mortality (1) . When Lynx numbers high this could impact hare numbers by decreasing	<i>Up to 5 marks max.</i>	5

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	<p>it,(1) which then results in lower breeding and/or emigration of Lynx (1)</p> <p>Other reasons like k and r species (1)</p>		
6	<p>Leave nest and forage on own (1)</p> <p>Limited protection from parents (1)</p> <p>Usually larger clutch size (1)</p> <p>Reduced parental care (1)</p> <p>(r selected) (1)</p> <p>compared with Atricial chicks which have reduced clutch size and total dependence on parents (K characteristic) (1)</p>		3
7	<p>a : 1 mark each, up to 2 marks: Red Kite/White-tailed Sea Eagle/Great Bustard (2 marks)</p> <p>Or other re-introduced species.</p> <p>b: Any two of these:</p> <ul style="list-style-type: none"> • Fragmentation of population (1) • Human activity e.g. shooting (1) • leading to below minimum viable size of animal/habitat (1) • Pollution/invasive species (1) • degradation of habitat (1) • Increased predation (1) • Slow recovery from own population crash (1) <p>Allow any other suitable answer</p>	<p><i>1 mark for a reason</i> <i>Second mark for an explanation of that reason</i></p> <p><i>Only 2 reasons required</i></p> <p><i>No more marks for additional reasons.</i></p>	6
8	<p>a) Staple/hammer/fencing pliers/ wire strainers/gloves (1 mark for any of these)</p> <p>b) Steel toe capped boots/Ear defenders/Gloves (1 mark for either)</p> <p>c) 10 is the length of the screw (1)</p>		3
9	<p>Answer a: 10m x 3m x 0.10m (1 for correct working) = 3m³ (1 for correct answer)</p> <p>Up to 2 marks.</p> <p>Answer b: Any of the following up to four marks:</p> <p>Load bearing (1) Dimensions to ensure it can take expected traffic (1) Longevity – how long it will last in the environment (1) Environment - Timber treatments could contaminate environment (1).</p>		6

	<p>Surface finish – to ensure non-slip eg mesh (1) Access to site for materials and equipment (1) Cost (1)</p> <p>Any other relevant answers.</p>		
10	<p>Any three of the following:</p> <ul style="list-style-type: none"> • Leave in situ to rot down (1) • Stack in to piles/windrows to rot down (1) • Use a chipper (1) • Burn material (1) • Use the material (1) • Sell the material (1) 	<p><i>Accept and award marks for any other valid responses e.g. local authority/council recycling facilities.</i></p>	3
11	<p>a : PTO shaft/guard (1) b : Ball coupling/ Tow hitch (1)</p>		2
12	<p>1 mark for each bullet point up to a maximum of 4.</p> <ul style="list-style-type: none"> • Power source (diesel, petrol, electric) • Drive and transmission systems: 4WD/2WD and differential lock • Number of people being carried • Payload capacity • Terrain suitability • ground pressure required • Servicing and maintenance • Safety features • Cost of running 		4
13	<p>Band 1: 1-4 Marks</p> <p>A basic discussion of a limited range of factors to be considered when developing the management plan. This is to include consideration of the time of year and length of rotation and some of the indicative content.</p> <p>Band 2 : 5-8 Marks</p> <p>A good discussion of a wide range of factors to be considered when developing the management plan. Consideration has been given to any constraints to the overall plan, timings, legislation and methodology, with most of the indicative content.</p> <p>Band 3: 9-12 Marks</p> <p>An excellent discussion of an extensive range of factors to be considered when developing the management plan. Clear and detailed consideration has been given to any constraints to the overall plan, timings, legislation and methodology.</p>	<p>Indicative content</p> <ul style="list-style-type: none"> • <i>Objectives</i> • <i>Time of year</i> – to avoid nesting (Spring/Summer) and fruiting (Autumn) seasons therefore Winter best • <i>Machinery available</i> – tractor mounted hedge flail ideal • <i>Labour availability and skills</i> • <i>Condition of hedges</i> – species present, height, shape • <i>Any special wildlife present and their particular requirements</i> 	12

		<ul style="list-style-type: none">• <i>Crop rotation</i> – to allow access to hedgerows in Winter• <i>Length of rotation</i> – ideally every 3 years therefore cut 1 third a year.• Some hedgerows cut more frequently for access / sight line / road sides• <i>Agri</i> – environment scheme requirements/restrictions• <i>Legislation</i>• <i>Surveys</i>• <i>Management method</i> <p><i>For no awardable content, award 0 marks.</i></p>	
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