

Qualification: 0172-541 Level 3 Advanced Technical Extended Diploma in Animal Management (Wildlife) – Theory Exam (2)

2019 (Paper 1)

1	State two national and two international conservation organisation for wildlife and their habitats. (4 marks)		
	Acceptable answer(s)	Guidance	Max mks
	<p>1 mark each, up to 4 marks:</p> <p><i>National –</i></p> <p>Wildlife Trust National Wildlife Federation Royal Society for the Protection of Birds (RSPB) Natural England Natural Resources Wales Scottish National Heritage</p> <p><i>International –</i></p> <p>International Union Conservation of Nature (IUCN) Endangered Species International Worldwide Fund for Nature (WWF) International Wildlife Conservation Society</p> <p>Accept any other appropriate answer.</p>	Accept acronyms as well as full names.	4
2	Explain two reasons for global wildlife population fluctuations. (4 marks)		
	Acceptable answer(s)	Guidance	Max mks
	<p>1 mark for each reason, one for a correct explanation</p> <ul style="list-style-type: none"> • Seasonality (1) – populations can die off/thrive in certain seasons (1) • Migration (1)- seasonal movement of animals from one region to another for resources (1) • Diseases (1) – diseases that can occur that reduces the numbers in the population (1) (e.g. Chytrid fungus amphibians, Ebola or avian malaria) • Climate change (1) - global warming so species die off/move (1) habitat loss through flooding etc (1) • Habitat destruction (1) - destruction of wild areas for farming/logging (1), natural disaster causing destruction (1) 		4

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	<ul style="list-style-type: none"> Influence of man (1) - exploitation for food/unsustainable fishing/hunting/poaching reduces animal numbers (1), pollution can have negative impact on the habitat (1), competition over natural resources can affect population (1) <p>Accept any other appropriate answer.</p>		
3	<p>Describe the following three types of evolution within animal populations.</p> <ul style="list-style-type: none"> Divergent. (1 mark) Convergent. (1 mark) Parallel. (1 mark) 		
	Acceptable answer(s)	Guidance	Max mks
	<p>1 mark each, up to 3 marks:</p> <ul style="list-style-type: none"> Divergent - Related species diversify to gradually become increasingly different (1). Convergent – Different species begin to share (analogous) traits because of a shared environment/other selection pressure (1) Parallel - Two species evolve independently of each other, maintaining the same level of similarity (1) <p>Accept any other appropriate answer.</p>		3

4	Using an example, describe what an ex-situ conservation strategy is. (2 marks)		
	Acceptable answer(s)	Guidance	Max mks
	<p><i>Description</i> - The conservation of species is done outside of their natural habitats (1)/ off-site conservation (1)</p> <p><i>Examples</i> - Seed storage (1), <i>in vitro</i> storage (1), DNA storage (1), pollen storage (1), zoological park (1), botanical garden storage methods (1).</p> <p>Accept any other appropriate answer.</p>		2
5	State two physiological measurements that should be checked during an initial assessment of a wildlife casualty. (2 marks)		
	Acceptable answer(s)	Guidance	Max mks
	<p>1 mark each, up to 2 marks:</p> <ul style="list-style-type: none"> • Temperature • Pulse • Respiration 		2
6	State two key aims of the Deer Act 1991. (2 marks)		
	Acceptable answer(s)	Guidance	Max mks
	<ul style="list-style-type: none"> • Protects deer from poaching (1), prohibits the taking/killing of certain deer in close season (1), prohibits the taking/killing of deer at night (1), controls the use of prohibited weapons for the purpose of taking/killing deer (1) <p>Accept any other appropriate answer.</p>		2

7	Explain three factors that should be considered when designing a population management plan for a wildlife species. (6 marks)		
	Acceptable answer(s)	Guidance	Max mks
	1 mark for each factor and one mark for each explanation, up to 6 marks: <ul style="list-style-type: none"> • Food availability (1) –Needs to be considered to make sure there is enough food/correct type of food available/accessible in the area to avoid starvation/competition with other animals/ humans (1) • Surveying/survey method (1) – consider the survey technique in order to reliably track population changes (1), suitable method to meet the individual needs of the study (1), practicalities of mark/capture/identification of species (1) • Disease control (1) –To prevent disease spread to other wildlife/reduce need for culling (1) • Population control (1) – If population grows faster/higher than anticipated, consider the most appropriate control method (e.g culling/cropping/sterilisation) (1) • Predator prey relationships (1) – To make sure that the population can survive in the area (1) predators/prey are maintained at sustainable levels (1) Accept any other appropriate answer.		6
8	Explain three seasonal changes that may affect planning a wildlife population survey. (6 marks)		
	Acceptable answer(s)	Guidance	Max mks
	1 mark each, up to 6 marks: <ul style="list-style-type: none"> • Effect of foliage on viewing (1) – Type of foliage can restrict/enhance viewing of certain species (1) • Weather (1) – Temperature/rain/wind may affect activity levels (1), can influence hibernation for some species (1) • Breeding/Mating season (1) – activity levels/behaviour patterns can be affected by breeding/nesting/taking care of young (1) • Migrations (1)– Immigration/emigration can affect population numbers in an area/give inaccurate/unrealistic results (1) • Day length (1) – a longer day length allows a longer survey window (1) reduced/increased activity levels depending on day length/species (1) 		6

	Accept any other appropriate answer.		
9	Identify three potential sources of error when conducting an ecological survey. (3 marks)		
	Acceptable answer(s)	Guidance	Max mks
	1 mark each, up to 3 marks: <ul style="list-style-type: none"> • Experimental • Human • Statistical • Equipment Accept any other appropriate answer.		3
10	Explain two disadvantages of K breeding strategies. (4 marks)		
	Acceptable answer(s)	Guidance	Max mks
	1 mark for each disadvantage, 1 mark for explanation, up to 4 marks <ul style="list-style-type: none"> • small number of offspring are produced (1) with high energy outlay/high risk investment (1) • have a later maturity (1) creating a larger gap between generations (1) • often altricial/ show a long period of parental care (1) requires high energy outlay (1) Accept any other appropriate answer.		4

11	Explain three effects of habitat fragmentation on species populations. (6 marks)		
	Acceptable answer(s)	Guidance	Max mks
	1 mark for each example, one mark for each explanation, up to 6 marks: Reduced opportunity to breed (1) due to population being split/separated (1) Reduction in resources (1) due to loss of territory/habitat (1) Genetic variation reduced (1) isolation of population/lower in numbers (1) Reduced biodiversity (1) due to local extinctions (1) Extinction of a species (1) due to habitat no longer being able to support the species (1) Isolation of population (1) leading to speciation (1) Accept any other appropriate answer.		6
12	State three characteristics of a business partnership. (3 marks)		
	Acceptable answer(s)	Guidance	Max mks
	1 mark each, up to 3 marks: Partnership - it has more than one owner (1), all partners own a specified percentage of the profits (1) all partners own the business liabilities (1), partners must pay tax on their percentage profit (1), each partner's share of the profits is treated as their income (1). Accept any other appropriate answer.		3

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13	Describe three reasons why it is important for a supplier to be efficient when providing a service to a land-based business.		
	(3 marks)		
	Acceptable answer(s)	Guidance	Max mks
	1 mark each, up to 3 marks: <ul style="list-style-type: none">• Can provide a faster service/response to changing demands (1)• Increased competitiveness on price (1)• Increased profitability on products (1)• Ensures customers remain satisfied with service/supports repeat custom (1) Accept any other appropriate answer.	Accept any relevant examples that infer to efficiency.	3

14	Discuss the aims of an ecological survey and the considerations that need to be made before conducting the survey on a potential building site. <div style="text-align: right;">(12 marks)</div>		
	Acceptable answer(s)	Guidance	Max mks
	<p>Band 1 (1-4 marks)</p> <p>The learner has given a brief answer which includes limited reference to aims and/or considerations. Clear gaps in knowledge are evident. Only one aspect of ecological surveys may have been discussed.</p> <p>For the higher marks in the band, learners have made some attempt to explain the reasons for carrying out an ecological survey. Technical terminology may be used infrequently and not always accurately.</p> <p>Band 2: (5-8 marks)</p> <p>The learner has given a detailed answer which includes some explanation of aims and considerations. Some gaps in knowledge are evident. Learner has discussed more than one aspect of ecological surveys.</p> <p>For the higher marks in the band, learners have given valid explanations of the reasons for carrying out an ecological survey with some links to ethical considerations. Technical terminology may be used frequently with some minor inaccuracies.</p> <p>Band 3: 9-12 marks</p> <p>The learner has given a comprehensive answer which includes detailed discussion of a wide range of aims and considerations. There are few gaps in knowledge evident. Learner has thoroughly discussed various aspects of ecological surveys.</p> <p>For the higher marks in the band, learners have given justified and logical explanations of the reasons for conducting ecological surveys. Technical terminology is used frequently with few inaccuracies</p>	<p><i>Indicative content -</i></p> <p>Physical Resources Relevant legislation Behaviour of species External conditions Ethical considerations</p> <p><i>Aims –</i></p> <p>Identify the species that are present Identify the impact of the plans on the species/habitat. Prohibit work that may impact on protected species. Implement protective measures where necessary. Identify strategies to preserve habitat/species.</p>	12

