

0170-505 June 2024

Level 2 Technical Award in Land Based Studies

Theory Exam

1	Name <b>four</b> different common pests that cause damage to plants. (4 marks)						
	<b>Acceptable answer(s)</b>	<b>Guidance</b>	<table border="1"> <thead> <tr> <th>Max mks</th> <th>Unit ref</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>202 2.3 AO1</td> </tr> </tbody> </table>	Max mks	Unit ref	4	202 2.3 AO1
Max mks	Unit ref						
4	202 2.3 AO1						
	<ul style="list-style-type: none"> <li>• Aphids (1)</li> <li>• Slugs (1)</li> <li>• Snails (1)</li> <li>• Caterpillar (1)</li> <li>• Rabbits (1)</li> <li>• Deer (1)</li> <li>• Birds (1)</li> <li>• Beetles (1)</li> <li>• Badgers (1)</li> </ul>	Accept any other relevant answer					

2	Describe how wearing <b>two</b> named items of Personal Protection Equipment (PPE) can help the operator to handle animals safely. (4 marks)			
	<b>Acceptable answer(s)</b>	<b>Guidance</b>	<b>Max mks</b>	<b>Unit ref</b>
	<p><b>Up to two marks for each type of PPE described to a maximum of four marks.</b></p> <ul style="list-style-type: none"> <li>• Safety glasses: to provide a barrier (1) to prevent any muck/foreign objects getting into the eyes (1)</li> <li>• Latex gloves: to provide a barrier (1) to protect the hands from bacteria / contaminants (1)</li> <li>• Heavy duty gloves: to protect hands from injury (1) when handling animals/birds with sharp claws/teeth/beak (1)</li> <li>• Face Masks: to prevent anything getting into the mouth / lungs (1) when applying medication (1) or to stop disease spreading (1)</li> <li>• Steel toed footwear: to protect the feet (1) from animals standing on them (1)</li> <li>• Coveralls: to prevent contaminants getting on to clothing (1) or injury from the animal (1)</li> <li>• Aprons/waterproof clothing: to prevent contaminants getting on to clothing (1) and be washed off easily (1)</li> <li>• Hard hat: to protect the head (1) in case of falling/falling objects (1)</li> </ul>	Accept any other relevant answer	4	202 4.1 AO2

3	Describe <b>two</b> methods of energy production used in the United Kingdom (UK). (4 marks)		
	<b>Acceptable answer(s)</b>	<b>Guidance</b>	<b>Max mks</b> <b>Unit ref</b>
	<p><b>Up to two marks for each type of method described to a maximum of four marks.</b></p> <ul style="list-style-type: none"> <li>• Wind: large vanes rotate (1) which drives a turbine producing electricity (1)</li> <li>• Solar: photo sensitive panels (1) turn sunlight into electricity (1)</li> <li>• Biomass / biodigester: the breakdown of organic matter (1) to produce many forms of energy (1)</li> <li>• Oil/fossil: extracted from underground (1) and turned into energy (1)</li> <li>• Tidal: the movement of the sea (1) can be used to turn turbines to create electricity (1)</li> <li>• Water / Hydro: dams are built (1) and the fall of water (1) turns turbines to create electricity (1)</li> <li>• Heat pumps: absorb heat from the air, ground or water around a building (1) and pump it to where it is needed (1).</li> </ul>	Accept any other relevant answer	4  201 1.1 AO2

4	State <b>two</b> ways that the countryside landscape has developed since the enclosure of land. (2 marks)			
	<b>Acceptable answer(s)</b>	<b>Guidance</b>	<b>Max mks</b>	<b>Unit ref</b>
	<ul style="list-style-type: none"> <li>• More hedges (1)</li> <li>• Fields created (1)</li> <li>• Larger farms (1)</li> <li>• More fencing (1)</li> <li>• Different crops (1)</li> </ul>	Accept any other relevant answer	2	201 2.1 AO1

5	Describe <b>two</b> responsibilities of the Royal Society for the Prevention of Cruelty to Animals (RSPCA) regarding animals grazing on the land. (4 marks)			
	<b>Acceptable answer(s)</b>	<b>Guidance</b>	<b>Max mks</b>	<b>Unit ref</b>
	<p><b>Up to two marks for each responsibility described to a maximum of four marks.</b></p> <ul style="list-style-type: none"> <li>• Reduce animal neglect / cruelty (1) by having inspectors with powers of access to the land (1)</li> <li>• To create welfare standards (1) for animals grazing the land (1) to raise the standard of care (1)</li> <li>• To give advice / guidance / raise awareness (1) to improve animal care (1)</li> <li>• To care for animals that have been mistreated/injured (1) to prevent further suffering (1)</li> <li>• To rehome animals (1) into a safe environment (1)</li> </ul>	Accept any other relevant answer	4	201 1.1 AO2

6	Explain <b>two</b> ways that temperature ranges can affect crop production. (4 marks)			
	<b>Acceptable answer(s)</b>	<b>Guidance</b>	<b>Max mks</b>	<b>Unit ref</b>
<p><b>Up to two marks for each explanation to a maximum of four marks.</b></p> <ul style="list-style-type: none"> <li>• Lower soil temperature (1) will stop seeds germinating (1)</li> <li>• High temperatures (1) mean plants flower earlier (1) when there may not be pollinators (1)</li> <li>• High temperatures (1) mean the soil is drier which inhibits water take up (1) in the roots (1)</li> <li>• High air temperatures (1) cause excessive water loss from leaves (1)</li> <li>• High temperatures dry out grassland (1) meaning fewer animals can be kept (1)</li> <li>• Frost (1) destroys the plant cells (1) and destroys the flowers on fruit trees (1) preventing fruit production (1)</li> <li>• At very high temperatures (1) photosynthesis stops (1)</li> <li>• Very high temperatures (1) prevent germination (1) as there is no water (1)</li> </ul>	Accept any other relevant answer	4	201 1.2 AO2	
7	Describe <b>two</b> ways of preventing ringworm. (4 marks)			
	<b>Acceptable answer(s)</b>	<b>Guidance</b>	<b>Max mks</b>	<b>Unit ref</b>
<p><b>Up to two marks for each prevention described to a maximum of four marks.</b></p> <ul style="list-style-type: none"> <li>• Regularly cleaning blankets, bedding, quarters (1) to prevent spreading (1)</li> <li>• Don't share bedding between animals (1) to prevent spreading (1)</li> <li>• Good hygiene / washing hands (1) to prevent spreading (1)</li> <li>• Disinfecting / cleaning tools / equipment (1) to prevent cross contamination (1)</li> <li>• Use gloves when touching animals/pens (1) to prevent spreading (1)</li> <li>• Use of antifungal medicine (1) to kill the ringworm (1)</li> </ul>	Accept any other relevant answer	4	202 4.3 AO2	





12	Describe <b>three</b> named types of technology that can help monitor remote areas of land. (6 marks)		
	<b>Acceptable answer(s)</b>	<b>Guidance</b>	<b>Max mks</b> <b>Unit ref</b>
	<p><b>Up to two marks for each type of technology described to a maximum of six marks.</b></p> <ul style="list-style-type: none"> <li>• ATVs: due to their lightness (1), 4-wheel drive (1), ground clearance (1)</li> <li>• Drones: are able to fly over the land/over remote areas (1) and take photographs/video (1)</li> <li>• 4 X 4 vehicles: have 4-wheel drive (1), ground clearance (1), high power (1), low gears (1)</li> <li>• Remote cameras: can take photographs/video (1) therefore no need to access the land (1) has time lapse (1)</li> <li>• GPS: to monitor movement of animals/birds (1) can track from space (1)</li> <li>• Collars &amp; Invisible fences: to restrict where animals can go (1) and see where they are (1)</li> <li>• Thermal imaging: allows night-time monitoring (1) using heat sensing/infrared (1)</li> <li>• Transponders: gives out a signal (1) allow tracking of animals throughout their range (1)</li> <li>• Apps: attached to transponders/GPS (1) which is connected to a mobile/smart phone (1)</li> </ul>	Accept any other relevant answer	6  203 2.1 AO2



13	<p>An outdoor pursuit centre is opening in a rural area.</p> <p>Discuss the advantages and disadvantages of the centre to the local community and wildlife and how the disadvantages could be managed. (12 marks)</p>			
<b>Acceptable answer(s)</b>	<b>Guidance</b>	<b>Max mks</b>	<b>Unit ref</b>	
<p><b>Band 1 (1 - 4 marks)</b></p> <p>There is little discussion on the advantages and disadvantages of an outdoor pursuit centre. Answers lack logical structure. The use of technical language is limited and occasionally imprecise. Answer may be disorganised and ambiguous.</p> <p><b>Band 2 (5 - 8 marks)</b></p> <p>There is adequate discussion on the advantages and disadvantages of an outdoor pursuit centre. There is some structure and logic in the answer presented. The use of technical language and specialised terms is mostly accurate and consistent.</p> <p><b>Band 3 (9 - 12 marks)</b></p> <p>There is detailed and comprehensive discussion on the advantages and disadvantages of an outdoor pursuit centre. There are strong links to industrial good practice. Specialised terms are used correctly and appropriately. The whole answer is very coherent and well structured.</p>	<p><u>Indicative content</u></p> <p>Disadvantages</p> <ul style="list-style-type: none"> <li>• Erosion caused by increased footfall of horses/mountain bikes/climbing/walking.</li> <li>• Noise caused by people, vehicles.</li> <li>• Light pollution caused by vehicles at night/horse riding arenas.</li> <li>• Biodiversity problems caused by destruction of habitat, introduction of new species.</li> <li>• Security problems caused by increased activity.</li> <li>• Increase in traffic caused by people travelling to centre, deliveries, people on roads.</li> <li>• Increase in litter from extra population.</li> <li>• Biosecurity from disease being brought into the area.</li> </ul> <p>Advantages</p> <ul style="list-style-type: none"> <li>• Employment.</li> <li>• Benefit to local economy.</li> <li>• New facilities for local people.</li> <li>• Associated industries benefit from horse riding/bikes/equipment.</li> <li>• New buildings for birds to nest in.</li> <li>• New habitats.</li> </ul> <p>Management</p> <ul style="list-style-type: none"> <li>• Erosion managed through designated routes/bridleways/upgrade of surface.</li> <li>• Noise managed through signage, designated areas, curfews, planting to suppress noise travel.</li> <li>• Light managed through directional lighting/screening.</li> <li>• Biodiversity – designated routes, checks on any changes.</li> <li>• Biosecurity – use of footbaths, signage, disinfection.</li> <li>• Traffic – encouragement of public transport, sharing.</li> <li>• Sustainability.</li> </ul>	12	201 202 203	

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