

0172-33 Level 3 Advanced Technical Extended Diploma in Animal Management (Science)

0172-045/545 Level 3 Animal Management – Theory exam (2)

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 2 marks:</p> <ul style="list-style-type: none"> • Drinking more than usual (1). • Vomiting (1). • Pus leaking from vulva/vagina (1). • Bloated/painful abdomen (tummy) (1). • Panting (1). • Off food/anorexia. (1). • Urinating more than usual. (1). • Collapse (1). • High temperature (1). • Lethargy (1). <p>Any other relevant point</p> | Do not award for generic symptoms | 2 | 315 1.3 AO1 |

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| Q2 | <p>Symptoms</p> <ul style="list-style-type: none"> • Fever (1) • Nasal discharge (1) • Eye discharge (1) • Lethargy (1) • Anorexia/loss of appetite (1) • Coughing (1) • Vomiting (1) • Diarrhoea (1) • Seizures (1) • Hyperkeratosis/thickened pads/nose (1) • Pustular dermatitis (rarely) (1). <p>Treatment</p> <ul style="list-style-type: none"> • IV fluids (1) • Anti-seizure medications (1) • Medications to help control vomiting and diarrhoea. (1) • Antibiotics for secondary bacterial infections. (1) • Assisted feeding/feeding tube (1) <p>Any other relevant point</p> | <p>Maximum one mark for symptom and one mark for treatment</p> <p>Do not accept antibiotics without reference to secondary infection</p> | 2 | 315 1.4 AO1 |
| Q3 | <ul style="list-style-type: none"> • Allows for quick access to the client (1) providing an opportunity to clarify/ask questions prior to collection (1) • Accessible for the client/they do not have to attend the practice (1) audio communication means the client is not relying on visual cues to communicate (1) <p>Any other relevant point</p> | <p>Accept other appropriate wordings of audio form of communication.</p> <p>Maximum two marks if only statements with no explanation given.</p> <p>Accept suitable explanations only eg not why another communication form is unsuitable</p> | 4 | 315 2.2 AO2 |
| Q4 | <p>1 mark each for any of the following, to a maximum of 6 marks:</p> <p>Student veterinary nurses may be directed by veterinary surgeons that employ them (1), to give/carry out any medical treatment (1), or carry out limited veterinary surgery <u>not involving entry into a body cavity</u> (1).</p> <p>The veterinary surgeon must be satisfied that the nurse is capable of carrying out the treatment/minor surgery (1) and this must be <u>supervised by veterinary surgeon/a registered veterinary nurse</u> (1) in a direct, continuous and personal manner (1).</p> | <p>Answers relating to veterinary surgery performed by SVN can only be awarded if they include not entering the body cavity or similar terminology.</p> <p>Award up to two marks for statements only</p> | 6 | 315 2.1/2. 3 AO2 |

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| | Any other relevant point | | | |
| Q5 | <p>1 mark each for any of the following, to a maximum of 2 marks:</p> <ul style="list-style-type: none"> To identify/reduce the major hazards (1) To identify/reduce who is at risk (1) Legal requirement under HASAWA 1974 (1) To identify measures to keep people safe (1) To inform working practices/protocols (1) <p>Any other relevant point</p> | | 2 | 318 1.1 AO1 |
| Q6 a) | <ul style="list-style-type: none"> Eye protection <u>must</u> be worn (1) | <p>Must include “must/has be worn” to award the mark. Accept any other appropriate wording, eg goggles must be worn.</p> <p>Do not accept “glasses”, unless states “safety glasses”.</p> | 1 | 318 1.1 AO1 |
| Q6 b) | <ul style="list-style-type: none"> Toxic/poison/poisonous (1) | Do not accept Hazardous/Dangerous | 1 | 318 1.1 AO1 |
| Q7 | <p>Allowing multiple variables to change makes it harder to trace which change is having which effect (1) and will invalidate the experiment’s results (1)</p> <p>Any other relevant point</p> | Do not award for accuracy of results | 2 | 318 2.1 AO2 |
| Q8 | <p>1 mark each for any of the following, to a maximum of 6 marks:</p> <ul style="list-style-type: none"> The number of shells in the electronic configuration of an element (1) is represented in the periodic table as the period number/row that element is situated in (1) The number of electrons in the outermost shell of an element (1) is represented in the periodic table as the group number that element is situated in (1) Group one elements only have one electron in their outer shell (1) which makes them more reactive (1) The number of electrons in all shells of an element (1) is represented in the periodic table as the element's atomic number (1) <p>Any other appropriate named examples</p> | Maximum three marks if only statements with no explanations are given. | 6 | 318 1.2 AO2 |

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| Q9 | 1 mark each, to a maximum of 3 marks: <ul style="list-style-type: none"> • Cells (1) • Fibres (1) • Ground substance/(extracellular) matrix (1) • Any other relevant point | Do not award double marks if different types of fibres/cells are listed. Eg collagen, elastin (no additional mark) | 3 | 321 4.2 AO1 |
| Q10 | 1 mark each for any of the following, to a maximum of 4 marks: <ul style="list-style-type: none"> • Interphase (1) • Prophase (1) • Prometaphase (1) • Metaphase (1) • Anaphase (1) • Telophase (1) • Cytokinesis (1) Any other relevant point | | 4 | 321 2.2 AO1 |
| Q11 a) | Dendrites: <ul style="list-style-type: none"> • Receive nerve impulses/signals from other neurons (1) • Pass signals towards the soma/cell body (1) | Maximum 1 mark per structure. Accept references to electrical signals rather than impulses. | 1 | 321 4.4 AO1 |
| Q11 b) | Myelin sheath: <ul style="list-style-type: none"> • protects the axon (1) • Insulates the axon (1) • enable faster transfer of electrical signal (1) | Maximum one mark per structure. | 1 | 321 4.4 AO1 |
| Q11 c) | Schwann cells: <ul style="list-style-type: none"> • Glial cell/Supports the neuron (1) • produces the myelin sheath (1) • provides nutrition to the axon (1) | Maximum one mark per structure. | 1 | 321 4.4 AO1 |
| Q12 | 1 mark each for any of the following, to a maximum of 4 marks: <ul style="list-style-type: none"> • Enveloped in a nuclear membrane (1) to separate the contents of the nucleus from the cytoplasm (1). • The nuclear membrane has pores (1) that allow products in and out (1) • Nucleolus in the nucleus (1) makes rRNA/ribosomes (for protein synthesis) (1) • Nucleoplasm makes up the inside (1) which enables storage of chromatin/DNA/genetic material/(creates | Maximum two marks per component. Award marks within context eg correct statement (1) incorrect explanation (0) | 4 | 321 1.1 AO2 |

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| | <p>a stable environment) for transcription to take place (1)</p> <ul style="list-style-type: none"> Chromatin is condensed into chromosomes (1) which enables cell division/allows the nucleus to contain all the needed DNA (1) <p>Any other relevant point</p> | | | |
| Q13 | <p>To check Mendelian genetic ratio (1) and look for difference between <u>expected and observed</u> ratio of offspring/genotype/phenotype (1). It can highlight any underlying <u>genetic issues</u> (1) by showing which gene interactions are likely (1)</p> <p>Any appropriate other named examples</p> | Maximum two marks if only statements with no explanations given. | 4 | 321 3.3 AO2 |
| Q14 | <p>1 mark each for any of the following, to a maximum of 4 marks:</p> <ul style="list-style-type: none"> Acrosome/Enzymes stored in the head (1) to penetrate the ovum (1) Many mitochondria (1) to provide energy for swimming (1) Whip like flagellum/tail (1) to aid movement (1) Haploid/half genetic material (1) to combine with the haploid ovum (to make the full/diploid amount of genetic material) (1) <p>Any other relevant point</p> | | 4 | 321 1.3 AO2 |
| Q15 | <p>For no awardable content, award 0 marks.</p> <p>Band 1: 1-4 marks A limited range of considerations with a mostly descriptive answer showing clear gaps in knowledge and limited understanding. Candidate attempts to use technical terminology infrequently but mostly inaccurately.</p> <p>To access the higher marks in the band, the candidate demonstrates a wider range of considerations with superficial explanations, which may not all be valid. An attempt to provide some examples may be evident, but may not be relevant.</p> <p>Band 2: 5-8 marks Candidate considered a range of aspects of the topic with a clear discussion showing knowledge and understanding with some gaps. Technical terminology is used frequently with some inaccuracies.</p> <p>To access the higher marks in the band, discussion is supported with relevant examples with developed and valid links to the topic, including some justifications.</p> <p>Band 3: 9-12 marks</p> | <p>Indicative content:</p> <ul style="list-style-type: none"> Identification of disease Respiratory distress (oxygen transport) Isolation procedures Quarantine Bio security Preventing further spread of the disease Treatments – antibiotics (secondary infection), fluids, supportive feeding Pseudostratified ciliated epithelial | 12 | 315 1.4, 2.3 321 4.1 |

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| | <p>Candidate considered a wide range of aspects of the topic with a comprehensive discussion showing thorough knowledge and understanding. Technical terminology is used correctly and appropriately throughout with minimal inaccuracies.</p> <p>To access the higher marks in the band, the discussion is supported using a broad range of highly relevant examples with clear and detailed justifications.</p> | <p>tissue – goblet cells</p> <ul style="list-style-type: none"> • Function/structure of tissue • Tissue type • Legislation – COSHH when working with chemicals, Vet Surgeons Act (treatment and diagnosis), AWA | | |
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