



# Mark Scheme (Results)

January 2021

Pearson BTEC Nationals  
In Equine Management (20108K)  
Unit 1: Equine Structure, Form and Function

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## Unit 1: Equine Structure, Form and Function

### General marking guidance

- All learners must receive the same treatment. Examiners must mark the first learner in exactly the same way as they mark the last.
- Mark grids should be applied positively. Learners must be rewarded for what they have shown they can do rather than be penalised for omissions.
- Examiners should mark according to the mark grid, not according to their perception of where the grade boundaries may lie.
- All marks on the mark grid should be used appropriately.
- All the marks on the mark grid are designed to be awarded. Examiners should always award full marks if deserved. Examiners should also be prepared to award zero marks, if the learner's response is not rewardable according to the mark grid.
- Where judgement is required, a mark grid will provide the principles by which marks will be awarded.
- When examiners are in doubt regarding the application of the mark grid to a learner's response, a senior examiner should be consulted.

### Specific marking guidance

The mark grids have been designed to assess learners' work holistically.

Rows in the grids identify the assessment focus/outcome being targeted. When using a mark grid, the 'best fit' approach should be used.

- Examiners should first make a holistic judgement on which band most closely matches the learner's response and place it within that band. Learners will be placed in the band that best describes their answer.
- The mark awarded within the band will be decided based on the quality of the answer in response to the assessment focus/outcome and will be modified according to how securely all bullet points are displayed at that band.
- Marks will be awarded towards the top or bottom of that band depending on how they have evidenced each of the descriptor bullet points.

Question Number	Answer	Mark
1a	A – Aorta B – Left atrium	2

Question Number	Answer	Mark
1b	A	1

Question Number	Answer	Mark
1c	Award up to a maximum of 4 marks.  Air breathed in through nose (1) exchange occurs in alveoli / lungs. / oxygen moves <b>into</b> alveoli (1) carbon dioxide moves <b>out</b> (1) through diffusion (1) air inhaled contains high oxygen content / air exhaled contains high carbon dioxide content (1)  Accept any other appropriate wording.	4

Question Number	Answer	Mark
1d	Award 1 mark for each identification and 1 mark for each linked expansion, up to a maximum of 2 marks.  <ul style="list-style-type: none"> <li>• Move /Expand (1) to allow increase in lung capacity (1)</li> <li>• Protect (1) vital organs (1)</li> <li>• Skeletal support (1) body strength (1)</li> </ul> Accept any other appropriate wording. Accept any other appropriate answer.	2

Question Number	Answer	Mark
2a	A – Ovary B – Vagina	2

Question Number	Answer	Mark
2b	<p>Award 1 mark for each identification and 1 mark for each linked expansion, up to a maximum of 4 marks.</p> <ul style="list-style-type: none"> <li>• Can expand (1) to allow development of foetus (1)</li> <li>• Has a layer of muscle / myometrium (1) to allow contractions (1)</li> <li>• Mucus lining (1) prevents dehydration / prevents entry of pathogens (1)</li> <li>• Endometrium (1) which thickens ready for implantation / allows implantation (1)</li> <li>• protecting foetus (1) ensuring healthy development (1)</li> </ul> <p>Accept any other appropriate wording. Accept any other appropriate answer.</p>	4

Question Number	Answer	Mark
2c	<p>Award up to a maximum of 4 marks.</p> <ul style="list-style-type: none"> <li>• Gonadotropin-releasing hormone / GnRH (1) produced by hypothalamus (1) stimulates the pituitary (1) to release follicle stimulating hormone / FSH (1) and luteinising hormone/LH (1) causing follicle development (1)</li> </ul> <p>Accept any other appropriate wording.</p>	4

Question Number	Answer	Mark
3a	<p>Award up to a maximum of 2 marks.</p> <ul style="list-style-type: none"> <li>• In the hoof (1) at end of short pastern / navicular bone (1)</li> </ul> <p>Accept any other appropriate wording.</p>	2

Question Number	Answer	Mark
3b	<p>Award 1 mark for each identification and 1 mark for each linked expansion, up to a maximum of 4 marks.</p> <ul style="list-style-type: none"> <li>• Absorbs concussion (1) due to spongy texture (1)</li> <li>• Assists circulation (1) by helping pump blood back up the leg (1)</li> <li>• Aids grip (1) by increasing surface area in contact with the ground (1)</li> </ul> <p>Accept any other appropriate answer.</p>	4

Question Number	Answer	Mark
3c	<p>Award up to a maximum of 2 marks.</p> <p>Moves in one plane only / 180 degrees (1) forwards and backwards / left to right (1) as found in jaw /elbow etc (1)</p> <p>Accept any other appropriate wording. Accept any appropriate example</p>	2

Question Number	Answer	Mark
3d	<p>Award up to a maximum of 4 marks.</p> <p>Scapula / (1) down to humerus (1) which is a long bone (1) below this is the radius (1) and ulna (1) of which the radius is in front / ulna behind (1)</p> <p>Answers must be in correct order. Annotated diagrams will be accepted.</p>	4

Question Number	Answer	Mark
4a	<p>Award up to a maximum of 2 marks.</p> <p>Bottom edge of the cell / tissue (1) next to the basement membrane (1)</p> <p>Accept any other appropriate wording. Annotated diagrams will be accepted.</p>	2

Question Number	Answer	Mark
4b	<p>Award up to a maximum of 4 marks.</p> <p>Single layer (1) but appears as multiple layers/stratified/ uneven (1) due to irregular shape (1) and nucleus position (1) usually columnar (1)</p> <p>Accept any other appropriate wording. Annotated diagrams will be accepted.</p>	4

Question Number	Answer	Mark
4c	<p>Award up to a maximum of 4 marks.</p> <p>Dense tissue (1) Surrounded by perichondrium/connective tissue (1) found in ribs/nose/larynx/trachea (1) and at joint surfaces (1) contains collagen fibres (1) making it very resilient/ provide support / protection (1) does not contain nerves/blood vessels (1)</p> <p>Accept any other appropriate wording.</p>	4

Question Number	Answer	Mark
5	<p>Answers will be credited according to the learner's demonstration of knowledge and understanding of the material, using indicative content and levels descriptors below. The indicative content that follows is not prescriptive.</p> <p>Answers may cover some / all of the indicative content but should be rewarded for other relevant answers.</p> <p>The range of joints within an equine body and conformation problems linked to these joints</p> <p>Correct angles within the equine body in relation to head carriage, legs and hoof.</p> <p>Poor conformation and the effect on joint angles.</p> <p>Equipment that affects the head carriage / neck angle:</p> <ul style="list-style-type: none"> <li>• side reins / draw reins – to prevent over bending of neck, encourage correct head carriage</li> <li>• standing / running martingales to prevent high head carriage</li> </ul> <p>Correct / remedial shoeing correcting and joint angles:</p> <ul style="list-style-type: none"> <li>• egg bar – to support flat feet</li> <li>• lateral and medial extension shoes</li> </ul> <p>Learners may make reference to the conformation of specific breeds</p>	8
<p><b>Mark scheme (Award up to 8 marks)</b> Refer to the guidance on the cover of this document for how to apply Levels Based Mark Schemes*.</p>		
Level	Mark	Descriptor
Level 0	0	No rewardable material
Level 1	1-2	Demonstrates isolated elements of knowledge and understanding. Generic statements may be presented rather than linkages being made. Lines of reasoning are unsupported.
Level 2	3-5	Demonstrates mostly accurate knowledge and understanding. Answer evidences occasional linkages between the elements in the context of the question. Lines of reasoning occasionally supported through the application of relevant evidence.
Level 3	6-8	Demonstrates accurate and thorough knowledge and understanding. Answer evidences comprehensive linkages between the elements in the context of the question. Lines of reasoning supported throughout by sustained application of relevant evidence.



Question Number	Answer	Mark
6a	Neuron	1

Question Number	Answer	Mark
6b	<p>Award up to a maximum of 4 marks.</p> <ul style="list-style-type: none"> <li>• Cervical (1) including atlas and axis / for head movement / from skull to shoulder (1)</li> <li>• Thoracic (1) from point of shoulder to last rib (1)</li> <li>• Lumbar (1) from ribs to pelvis (1)</li> <li>• Sacral (1) pelvis to flank (1)</li> <li>• Caudal / coccygeal (1) within tail (1)</li> </ul> <p>Accept any other appropriate wording. Accept descriptions that give reference to number of vertebrae for each division.</p>	4

Question Number	Answer	Mark
6c	<p>Award 1 mark for each identification and 1 mark for each linked expansion up to a maximum of 4 marks.</p> <ul style="list-style-type: none"> <li>• Controls involuntary reactions (1) by relaying messages through the brain (1)</li> <li>• Breathing rate / heart rate slows (1) to return body to resting state (1)</li> <li>• Muscular response (1) to conserve energy (1)</li> <li>• Saliva / stomach secretions increase (1) to restart the digestive processes (1)</li> </ul> <p>Accept any other appropriate response.</p>	4

Question Number	Answer	Mark
6d	<p>Award up to a maximum of 4 marks</p> <p>Neurotransmitters are responsible for transmitting messages (1) they are released by neurons (1) and pass across synaptic junction (1) in response to action potential (1) causing an electrical impulse (1)</p> <p>Enzymes break down neurotransmitter to prevent overstimulation (1) neurotransmitters can be excitatory / inhibitory (1)</p> <p>Accept any other appropriate wording.</p>	4

Question Number	Answer	Mark
7a	<p>Award up to 2 marks</p> <ul style="list-style-type: none"> <li>• Hair / mane / tail</li> <li>• Hooves</li> </ul>	2

Question Number	Answer	Mark
7b	<p>Award 1 mark for each identification and 1 mark for each linked expansion, up to a maximum of 2 marks.</p> <ul style="list-style-type: none"> <li>• Fibrous membrane / connective tissue (1) which covers the surface of bones (1)</li> <li>• Allows bone to grow (1) as it contains bone-forming cells (1)</li> <li>• Allows muscles to insert (1) as it is a fibrous/dense layer (1)</li> </ul> <p>Accept any other appropriate wording.</p>	2

Question Number	Answer	Mark
7c	<p>Award 1 mark for each identification and 1 mark for each linked expansion, up to a maximum of 2 marks.</p> <p>The end of long bones (1) where growth plates are located / growth occurs (1)</p> <p>Accept any other appropriate answer.</p>	2

Question Number	Answer	Mark
7d	<p>Award up to a maximum of 4 marks.</p> <p>Produces stem cells (1) which will become specialised cells as required (1) for example red blood cells (1) white blood cells (1) and platelets (1)</p> <p>Accept any other appropriate wording. Accept any other appropriate answer.</p>	4

Question Number	Answer	Mark
8	<p>Answers will be credited according to the learner's demonstration of knowledge and understanding of the material, using indicative content and levels descriptors below. The indicative content that follows is not prescriptive.</p> <p>Answers may cover some / all of the indicative content but should be rewarded for other relevant answers.</p> <p>Candidates should make reference to all three muscle types, providing a physical description of each and discussing their function.</p> <p>Cardiac</p> <ul style="list-style-type: none"> <li>• Three layer (pericardium, myocardium, endocardium)</li> <li>• Heart muscle, contracts to pump blood</li> <li>• Striated</li> <li>• Involuntary</li> </ul> <p>Skeletal</p> <ul style="list-style-type: none"> <li>• Overlapping to allow contraction</li> <li>• Striated</li> <li>• Work in pairs</li> <li>• Voluntary</li> <li>• Fast and slow twitch</li> </ul> <p>Smooth</p> <ul style="list-style-type: none"> <li>• Spindle shaped</li> <li>• No striation</li> <li>• Bundles of thick and thin filaments</li> <li>• Involuntary - peristaltic movement</li> </ul>	8

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Llywodraeth Cynulliad Cymru  
Welsh Assembly Government

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with its registered office at 80 Strand, London, WC2R 0RL, United Kingdom

