

Please check the examination details below before entering your candidate information

Candidate surname

Other names

Pearson BTEC Level 3
Certificate, Extended
Certificate, Foundation
Diploma, Diploma,
Extended Diploma

Centre Number

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Learner Registration Number

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Wednesday 9 January 2019

Morning (Time: 1 hour 30 minutes)

Paper Reference **20108K**

Equine Management

Unit 1: Equine Structure, Form and Function

You do not need any other materials.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and learner registration number.
- Answer **all** questions.
- Answer the questions in the spaces provided
– *there may be more space than you need.*

Information

- The total mark for this paper is 80.
- The marks for **each** question are shown in brackets
– *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ►

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Answer ALL questions. Write your answers in the spaces provided.

1 **Figure 1** shows a cross section of the epidermal layer of the skin.

(a) Identify the structures labeled A and B in **Figure 1**.

(2)

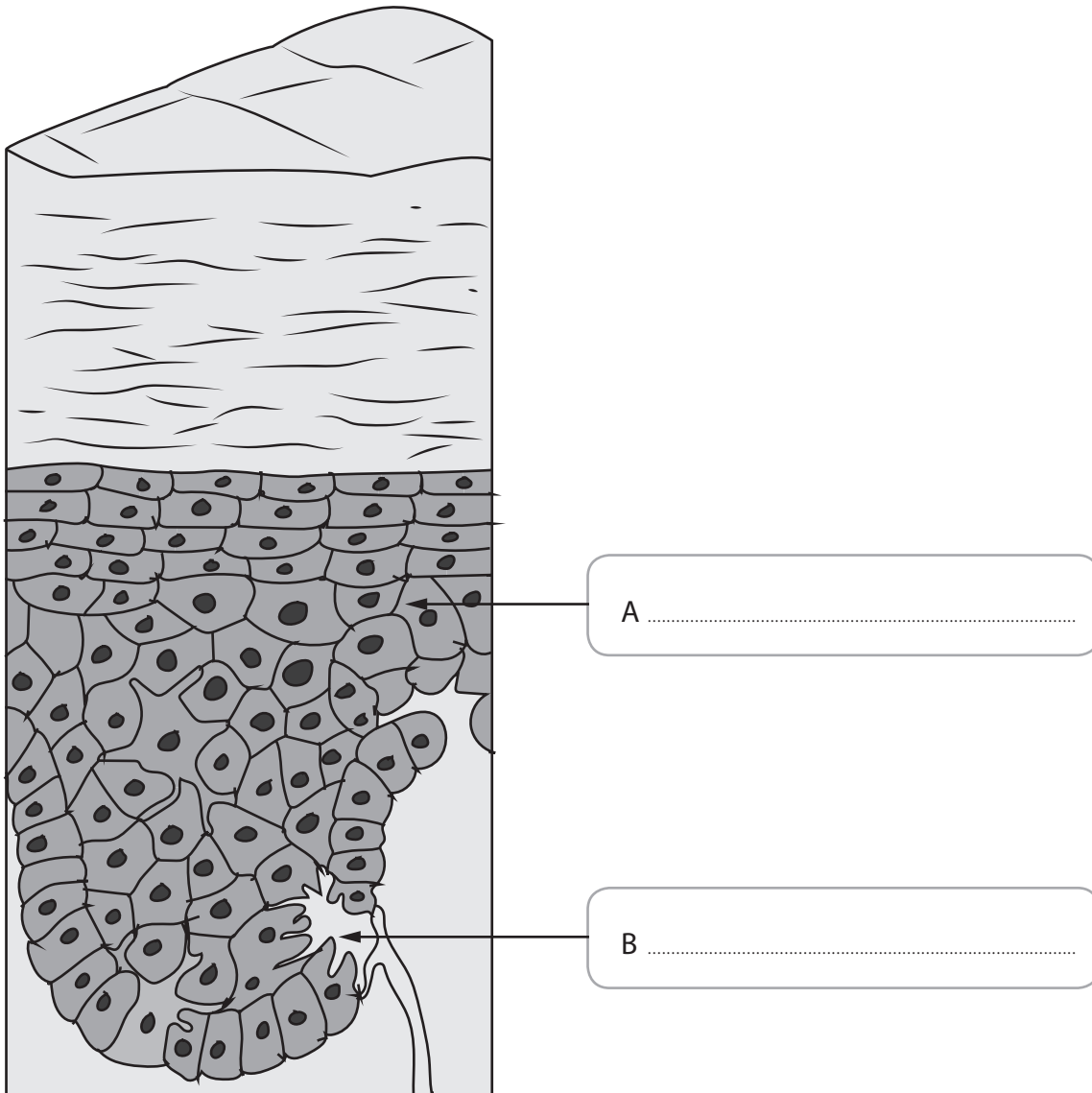


Figure 1

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Figure 2 shows the structure of skin. Four structures have been labelled, A, B, C and D.

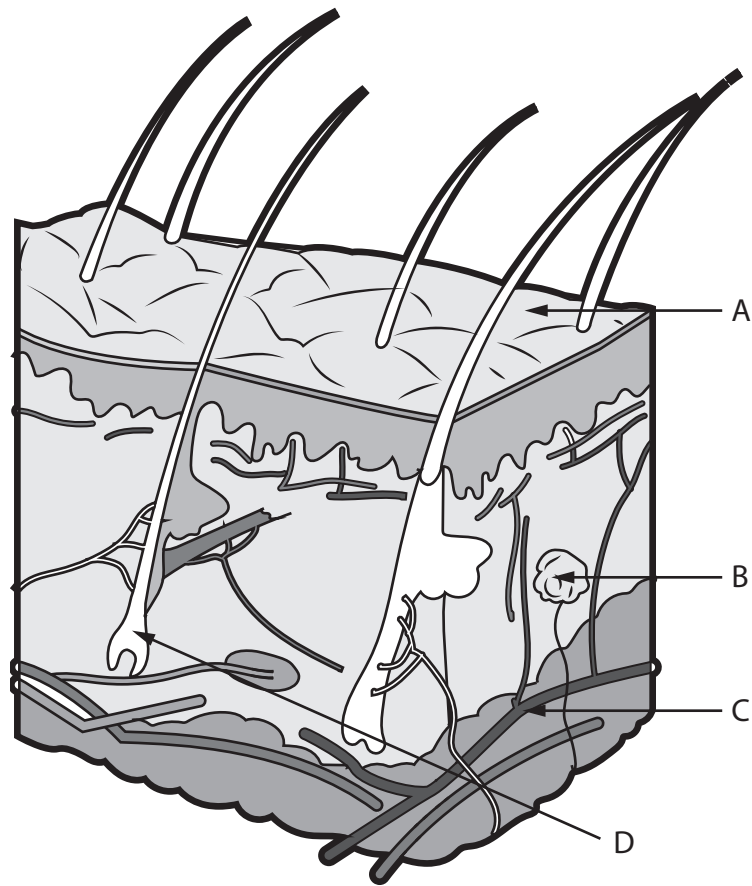


Figure 2

(b) Identify the sweat gland in **Figure 2**.

(1)

- A
- B
- C
- D



P 6 1 4 9 7 R A 0 3 2 0

(c) Describe **two** functions of hair.

(4)

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(d) Explain why a layer of fat is an essential component of skin.

(2)

(Total for Question 1 = 9 marks)

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2 **Figure 3** is a diagram of a nephron.

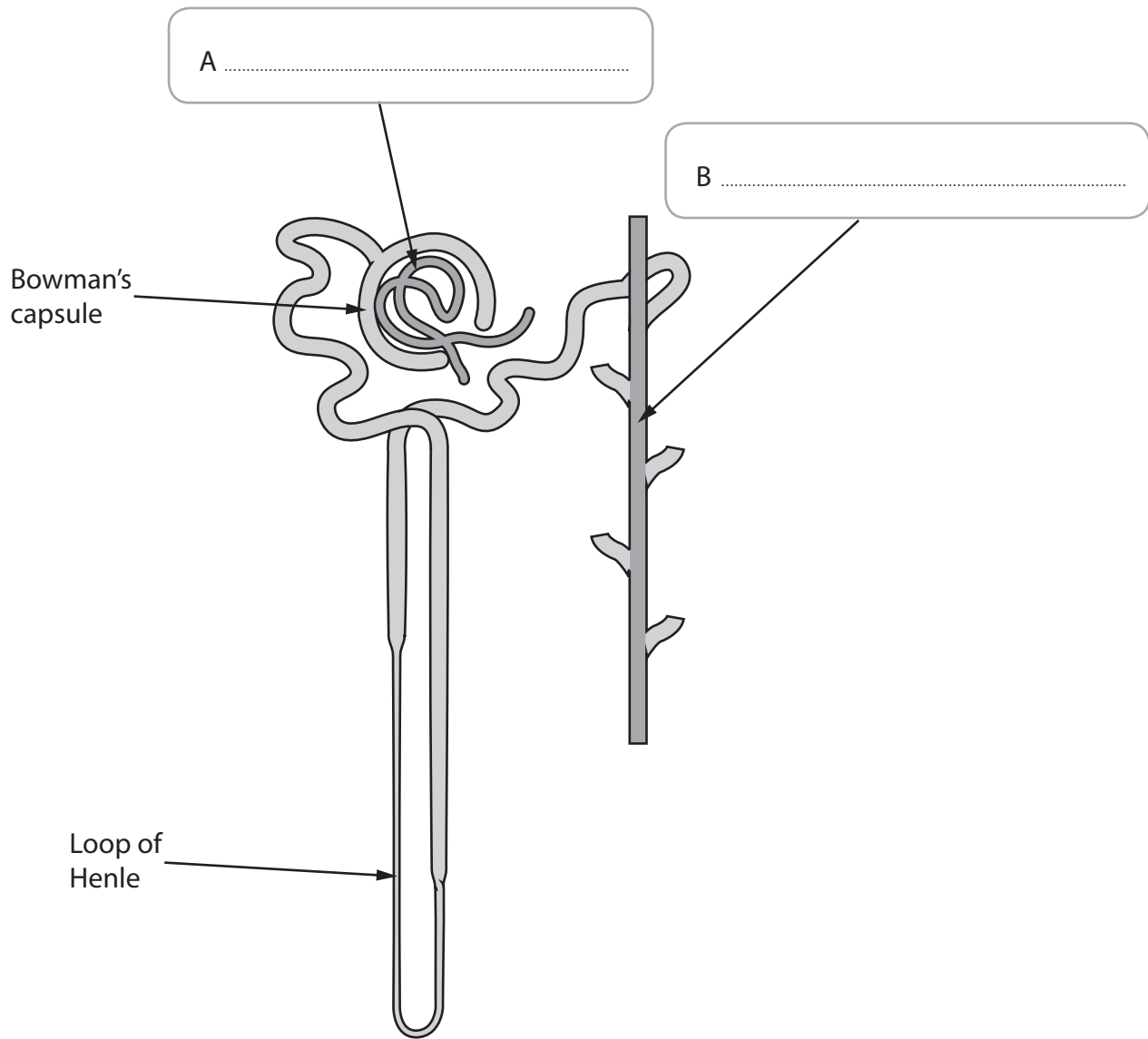


Figure 3

(a) Identify structures A and B in **Figure 3** by labelling the boxes provided.

(2)



(b) Describe **two** ways the equine kidney aids water balance.

(4)

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(c) Describe the role of the renal artery.

(4)

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(Total for Question 2 = 10 marks)

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3 (a) Explain **one** role of the hypothalamus in the temperature control of equines.

(2)

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(b) Describe how counter current heat exchange keeps a horse's blood temperature constant.

(4)

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Figure 4 shows the thermoregulation negative feedback

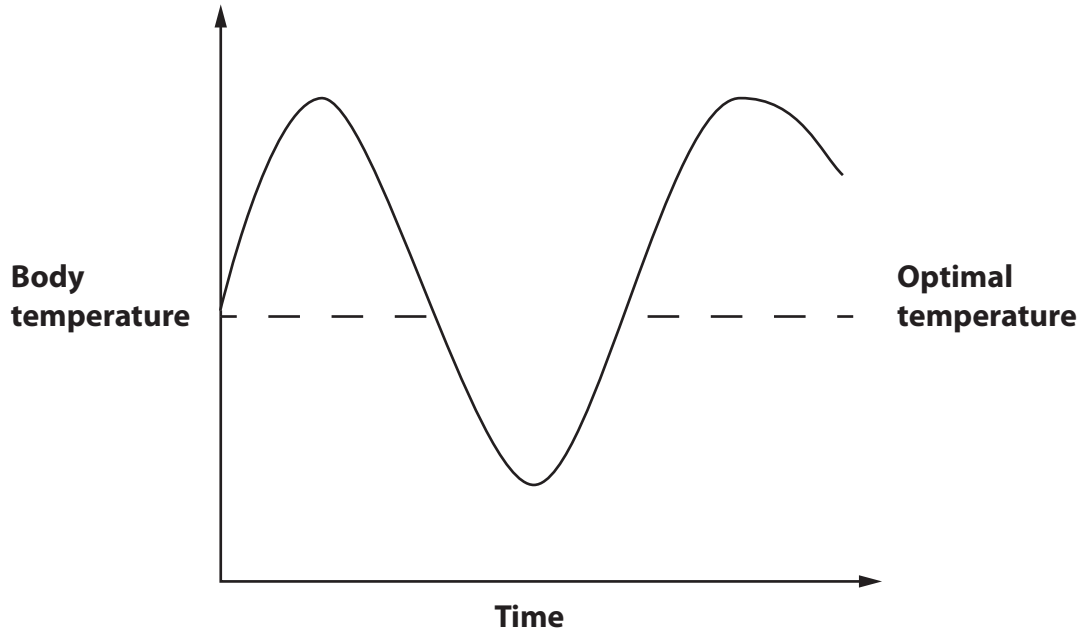


Figure 4

(c) Describe how 'negative feedback' maintains body temperature (thermoregulation).

(2)

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(d) A number of equine biological systems are involved in maintaining body temperature.

(i) Explain the role of the endocrine system in increasing equine body temperature.

(2)

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(ii) Explain the role of the cardiovascular system in reducing equine body temperature.

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(Total for Question 3 = 12 marks)

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4 (a) Describe the role of the central nervous system.

(2)

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(b) Explain **two** actions of the sympathetic nervous system in equines.

(4)

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Figure 5 shows a motor neuron cell.

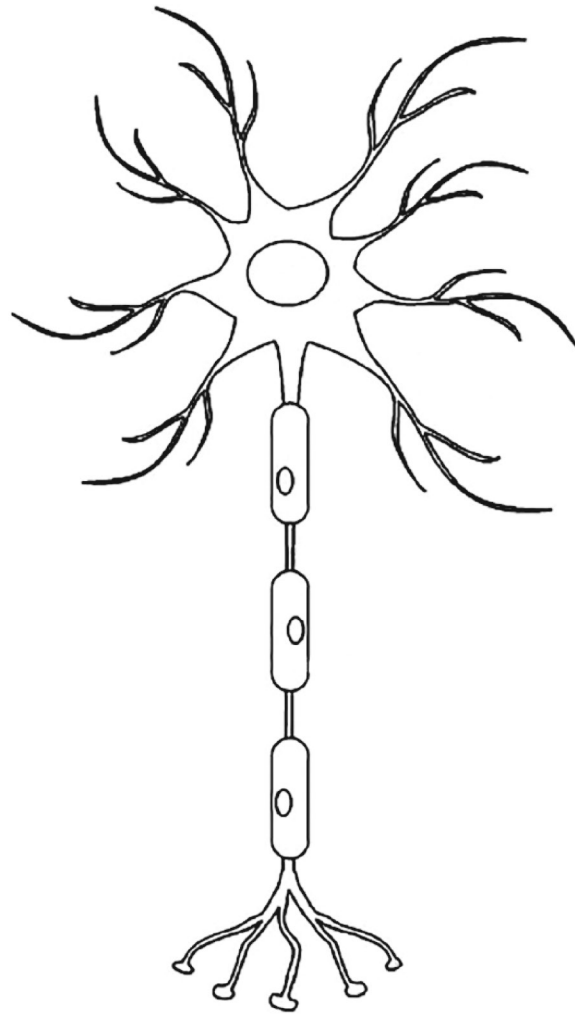


Figure 5

(c) Describe **two** features of a motor neuron which help its function.

(4)

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(Total for Question 4 = 10 marks)



P 6 1 4 9 7 R A 0 1 1 2 0

6 (a) State the location of the laminae.

(1)

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(b) Describe the action of **two** muscles of the upper hind leg.

(4)

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(c) Describe how intercostal muscles are involved in equine respiration.

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(d) Compare the structure of the upper and lower equine jaw.

(4)

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(Total for Question 6 = 13 marks)

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7 (a) State **two** roles of hooves.

(2)

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(b) Describe the internal anatomy of the hoof.

(4)

(c) Explain the function of stratified epithelial tissue.

(4)

(Total for Question 7 = 10 marks)



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8 Discuss the production of gametes (gametogenesis) in both mares and stallions.

(8)

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(Total for Question 8 = 8 marks)

TOTAL FOR PAPER = 80 MARKS





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