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Nationals Certificate,  
Extended Certificate,  
Foundation Diploma,  
Diploma, Extended  
Diploma

Centre Number

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Learner Registration Number

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**Monday 3 June 2019**

Morning (Time: 1 hour 30 minutes)

Paper Reference **31645H**

**Animal Management and  
Animal Management with Science  
Unit 2: Animal Biology**

**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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**Pearson**

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

1 Animals are classified into groups to identify them.

(a) Complete the **two** missing groups in the table below.

(2)

Kingdom
Phylum
Class
Order
Family

(b) State **one** vertebrate class.

(1)

(c) State **two** reasons why whales are classified as mammals.

(2)

1 .....

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2 .....

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(d) Describe a phylogenetic tree.

(2)

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(Total for Question 1 = 7 marks)

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2 The diagram below shows the skull of a cow



(a) Give the names of the structures labelled **A** and **B**.

(2)

A .....

B .....

(b) Explain **two** ways a cow's mouth is adapted to eat grass.

(4)

1 .....

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2 .....

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(c) State which teeth are adapted to rip meat in carnivores.

(1)

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(d) Explain **one** way birds break down their food without having teeth.

(3)

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(e) State the name of the nutrient that provides amino acids in the diet.

(1)

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**(Total for Question 2 = 11 marks)**

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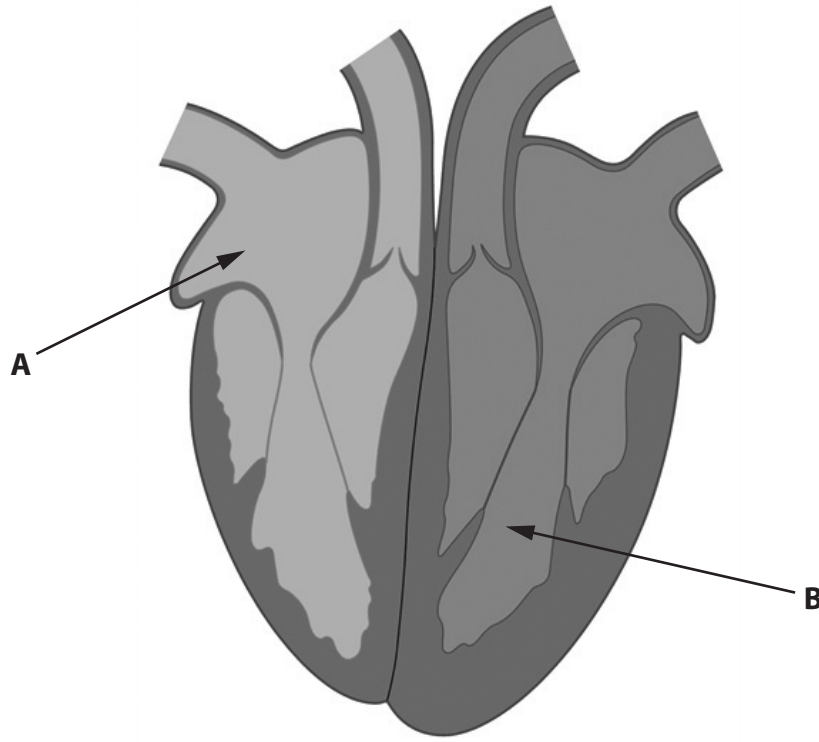
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3 The diagram below shows a dog's heart.



(a) Give the names of structures labelled **A** and **B**.

(2)

A .....

B .....

(b) State the name of the largest artery of the heart.

(1)

.....

(c) Give **three** advantages of a double circulatory system.

(3)

1 .....

.....

2 .....

.....

3 .....

.....



(d) Explain **two** functions of the lymphatic system.

(4)

1 .....

2 .....

(e) State **two** symptoms of von Willebrand disease in dogs.

(2)

1 .....

2 .....

(Total for Question 3 = 12 marks)

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4 All living organisms are made up of cells that are the building blocks of life.

(a) Complete the table below to show the names and functions of the cell organelles. (4)

Name of cell organelle	Function
Nucleus	
Ribosomes	
	The site of cellular respiration
	The synthesis and transport of lipids and steroids

(b) Give an example of a prokaryotic cell. (1)

(c) Explain the following processes:

(i) endocytosis (2)

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(ii) exocytosis. (2)

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(d) Describe osteogenesis imperfecta in dogs.

(3)

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**(Total for Question 4 = 12 marks)**

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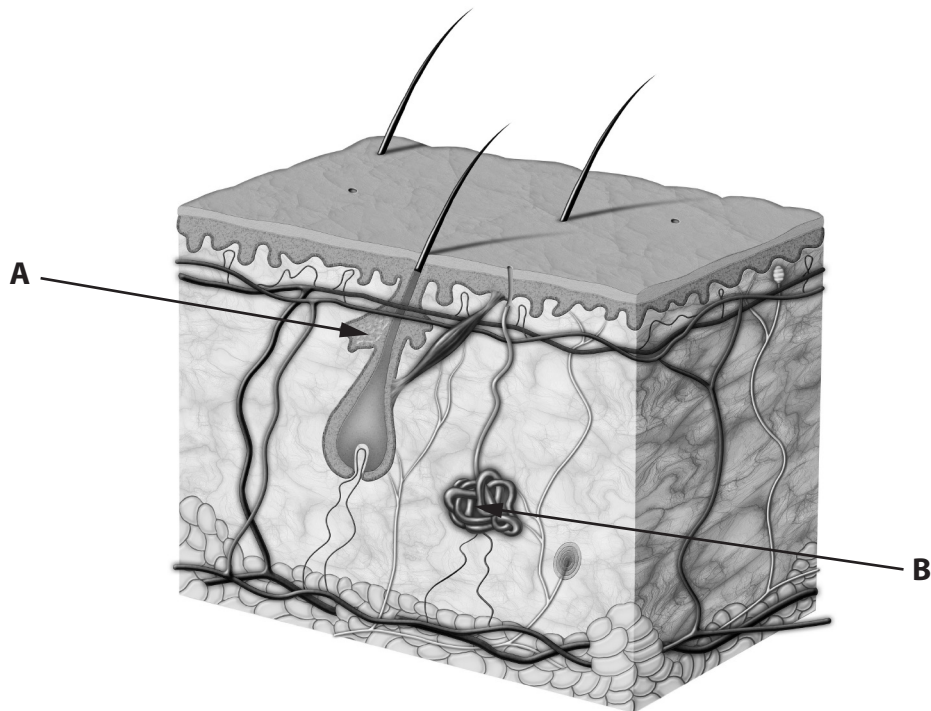
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5 The diagram below shows the structure of skin.



(a) Identify the glands labelled **A** and **B**.

(2)

A .....

B .....

(b) Describe **two** layers of the skin.

(4)

1 .....

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2 .....

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.....

(c) Define the term **haematopoiesis**.

(1)

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Birds have several kinds of feather, each with a specific role.

(d) Discuss the structure and function of different feather types.

(8)

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(e) State **one** function of cartilage.

(1)

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(f) Give **three** types of muscle tissue.

(3)

1 .....

2 .....

3 .....

**(Total for Question 5 = 19 marks)**

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6 The excretory system allows waste products to be removed from the body.

(a) Compare the removal of nitrogenous waste in mammals and birds.

(4)

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(b) State the hormone involved in osmoregulation.

(1)

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(c) Describe **two** roles of the loop of Henle.

(4)

1 .....

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2 .....

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(d) State **two** ways animals lose body heat.

(2)

1 .....

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2 .....

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(Total for Question 6 = 11 marks)

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Lined writing area for the answer to Question 7.

**(Total for Question 7 = 8 marks)**

**TOTAL FOR PAPER = 80 MARKS**



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