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

Centre Number

Learner Registration Number

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

Wednesday 24 May 2017 – Morning
Time: 1 hour 30 minutes

Paper Reference
31645H

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 ▶

P 5 1 7 2 0 A 0 1 2 0

Pearson

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

Scientific taxonomies are used to classify animals to species level.

1 (a) Give the missing **two** vertebrate classes.

(2)

Mammalia
Aves
Amphibia

(b) Define the term 'species'.

(1)

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....

(c) State **two** ways evolution takes place.

(2)

1 ....

....

2 ....

....

(d) The table below shows an incomplete taxonomic hierarchy.

Complete the **two** missing grouping levels.

(2)

| Kingdom |
| Phylum |
| Class |
| |
| Family |
| Genus |
| |

(Total for Question 1 = 7 marks)

Below is a diagram of a joint.

A

B
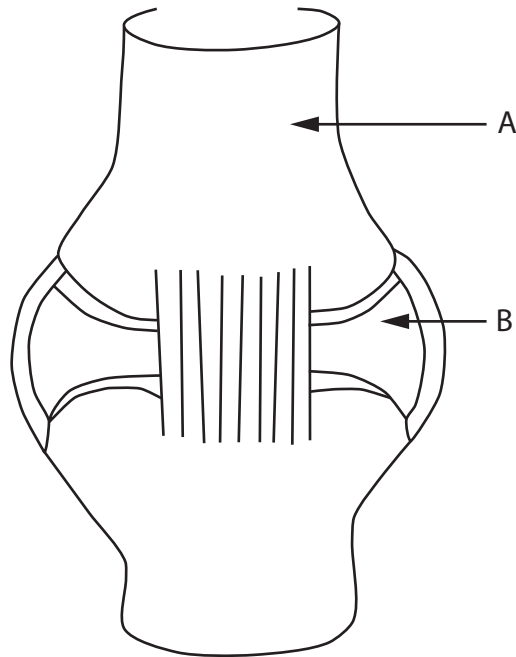
2 (a) Label structures A and B on the joint.

(2)

A ....

B ....

(b) There are three types of joint. One type is fibrous joints.

State the **two** other types of joint.

(2)

1 ....

....

2 ....

....

(c) Give **three** layers of the skin.

(3)

1 ....

....

2 ....

....

3 ....

....

(d) State **two** differences between tendons and ligaments.

(2)

1 ....

....

2 ....

....

(Total for Question 2 = 9 marks)

3 Below is a diagram of the reproductive system of a dog.
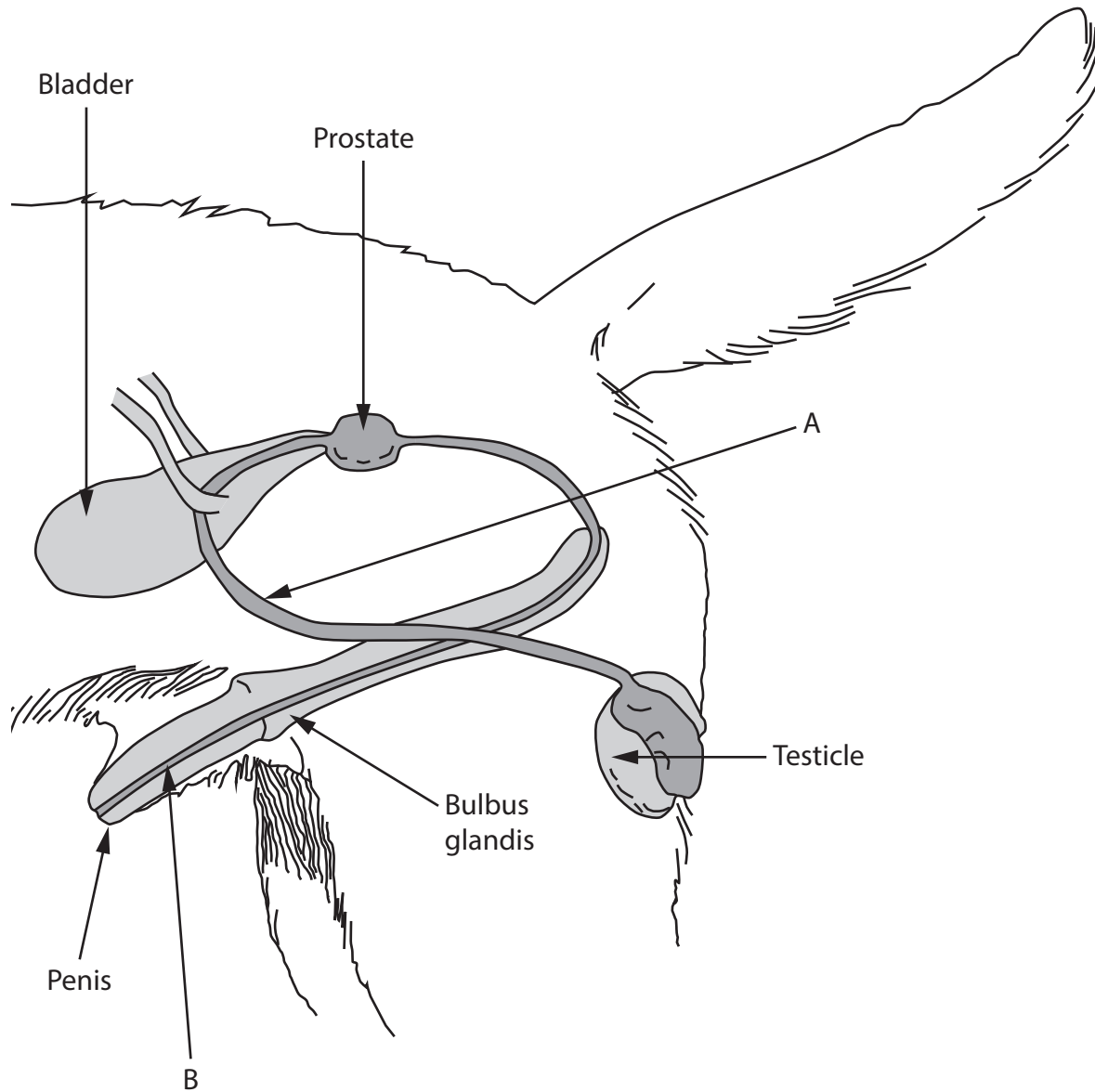
Bladder

Prostate

A

Testicle

Bulbus
glandis

Penis

B

(a) Label structures A and B.

(2)

A ....

B ....

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(b) Explain the function of **two** hormones that stimulate sperm maturation.

(4)

1 ....

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....

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2 ....

....

....

....

Below is a diagram of an animal cell.

A
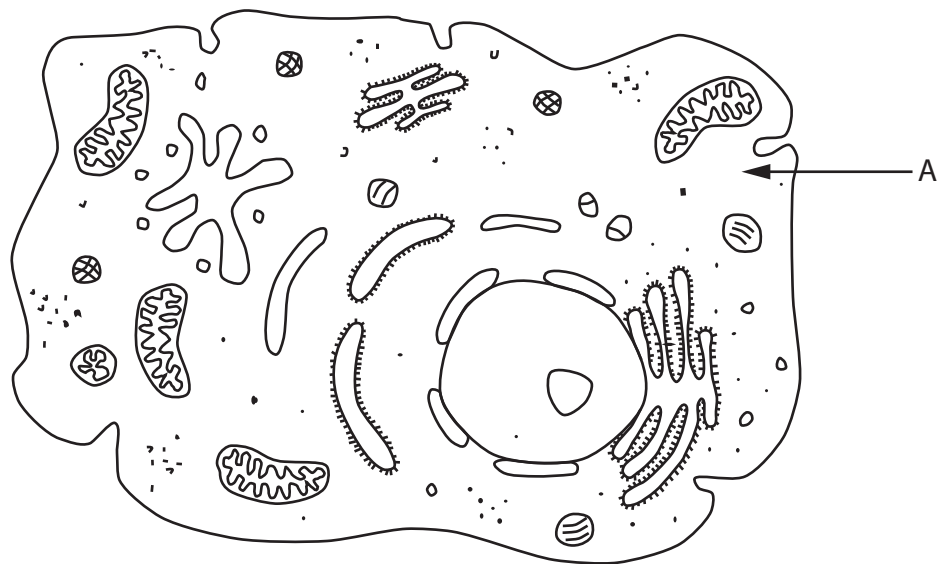
(c) State the name of the constituent labelled A.

(1)

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....

(d) Describe the function of the nucleus.

(2)

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....

(Total for Question 3 = 9 marks)

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QUESTION 4 BEGINS ON THE NEXT PAGE.

4 (a) Explain the role of protein in the diet of a pregnant bitch.

(4)

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(b) (i) Explain a feature of the dental structure for a herbivore.

(2)

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(ii) Explain a feature of the dental structure for a carnivore.

(2)

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....

(c) Explain **one** function of the pancreas.

(2)

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P 5 1 7 2 0 A 0 1 0 2 0

(d) Discuss how mechanical and chemical digestion work together in a rabbit.

(8)

(Total for Question 4 = 18 marks)

5 (a) Give **one** function of the mitral valve.

(1)

....

....

(b) State the function of killer T-cells and helper T-cells in the immune system.

(2)

Killer T-cells

....

....

Helper T-cells

....

....

(c) State **two** structures of the lymphatic system.

(2)

1 ....

....

2 ....

....

(d) Explain the role of the lymphatic system in immune response.

(4)

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P 5 1 7 2 0 A 0 1 2 2 0

(e) Give **two** advantages of a double circulatory system in mammals.

(2)

1 ....

....

2 ....

....

(f) Describe the differences between foetal haemoglobin and adult haemoglobin.

(4)

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(Total for Question 5 = 15 marks)

P 5 1 7 2 0 A 0 1 3 2 0

6 (a) Explain the effect of the vasodilation of arterioles next to the skin.

(4)

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(b) State **two** symptoms of hypothermia.

(2)

1 ....

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2 ....

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(c) State **two** symptoms of hyperthermia.

(2)

1 ....

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2 ....

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(Total for Question 6 = 8 marks)

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QUESTION 7 BEGINS ON THE NEXT PAGE.

7 (a) Explain the role of skin in excretion.

(3)

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(b) Explain how endothermic mammals maintain their normal body temperature.

(3)

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(c) Discuss the role of the loop of Henle in a camel living in the desert.

(8)

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(Total for Question 7 = 14 marks)

TOTAL FOR PAPER = 80 MARKS

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