Candidate Name	Centre Number	Candidate Number

ZIMBABWE SCHOOL EXAMINATIONS COUNCIL

General Certificate of Education Advanced Level

ANIMAL SCIENCE 6028/2

PAPER 2

SPECIMEN PAPER 2 hours 30 minutes

Additional materials:
Answer paper,
Scientific calculator.

TIME 2 hours 30 minutes

INSTRUCTIONS TO CANDIDATES

Write your name, Centre number and candidate number in the spaces provided at the top of this page and on all separate answer paper used.

Section A

Answer **all** questions.

Write your answers in the spaces provided on the question paper.

Section B

Answer any **two** questions.

Write your answers on the separate answer paper provided.

At the end of the examination, fasten the separate answer paper securely to the question paper.

INFORMATION FOR CANDIDATES

Marks are given in brackets [ ] at the end of each question or part question.

You are advised to spend no longer than **80 minutes** on Section A.

FOR EXAMINER'S USE	
Section A	
Section B	
TOTAL	

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[Turn over

Section A

Answer all questions

For Examiner's Use

1 **(a)** Explain the functions of the smooth endoplasmic reticulum.

_____

_____

_____ [2]

(b) Indigenous breeds of livestock have adapted to the Zimbabwean environment. Explain any **two** adaptive characteristics they have in common.

_____

_____

_____

_____

_____

_____ [4]

(c) Explain the functions of phospholipids in cell membranes.

_____

_____

_____

_____

_____

_____ [4]

For Examiner's Use

2 **(a)** Outline the functions of the lymphatic system.

_____

_____

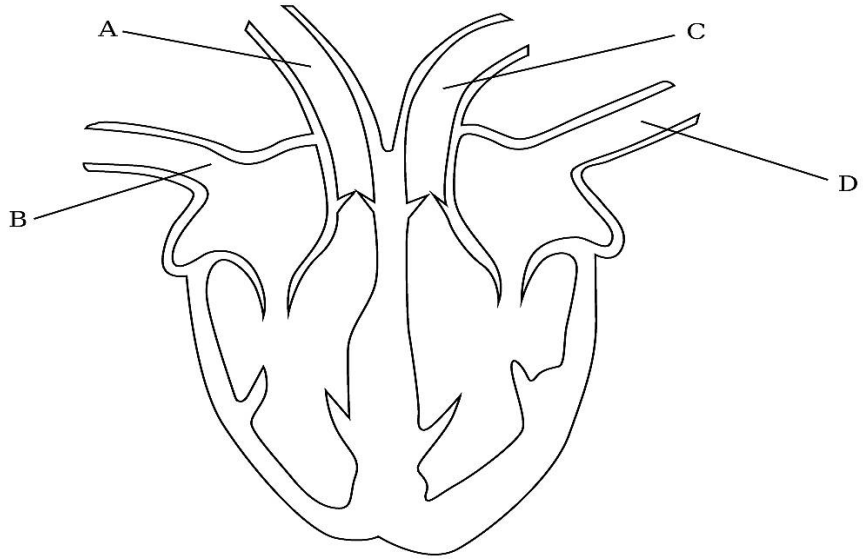
_____

_____

_____

_____ [4]

(b) **Figure 1** shows vessels that carry blood to and from the heart.
Name the parts labelled **A**, **B**, **C** and **D**.



A_____

B_____

C_____

D_____ [4]

For Examiner's Use

(c) From **Figure 1**, identify blood vessels that carry blood to:

(i) rest of the body.

_____ [1]

(ii) lungs.

_____ [1]

3 **(a)** Differentiate between true and apparent digestibility.

(i) True digestibility,

_____

_____

_____ [3]

(ii) Apparent digestibility.

_____

_____

_____ [2]

(b) Give **five** factors that affect palatability of livestock feeds.

_____

_____

_____

_____

_____

_____ [5]

For Examiner's Use

4 **(a)** When a red polled bull (RRPP) is crossed with a white horned cow (rrpp) all F_1 are roan and polled (RrPp).

(i) What type of dominance is operative in terms of coat colour?

_____ [1]

(ii) By means of a genetic diagram determine the expected F_2 phenotypic ratios after selfing the F_1offsprings.

_____

_____

_____

_____

_____ [4]

(iii) Why is it difficult to establish a herd with all roan cattle compared to a herd with all red cattle?

_____

_____

_____ [1]

(b) Genetic improvement of livestock breeds depend on heritability.

(i) define heritability.

_____

_____

_____ [2]

For Examiner's Use

(ii) Explain why it is relatively more difficulty to improve fertility traits compared to productive traits through breeding and selection.

_____

_____

_____

_____ [2]

5 **(a)** Describe the following terms as they are used in animal breeding:

(i) Natural selection,

_____

_____

_____ [2]

(ii) Artificial selection,

_____

_____

_____ [2]

(iii) Scientific selection.

_____

_____

_____ [2]

(b) Discuss the objectives of animal breeding.

For Examiner's Use

_____

_____

_____

_____

_____

_____

_____ [4]

6 **(a)** Identify any **four** methods of preserving meat.

_____

_____

_____

_____

_____ [4]

(b) Explain problems associated with in-breeding in animal production.

_____

_____

_____

_____

_____

_____

_____ [6]

Section B

7 **(a)** Briefly describe the characteristics of the following muscle types:

(i) skeletal, [3]

(ii) smooth, [3]

(iii) cardiac. [3]

(b) Describe the following types of breathing:

(i) Eupnea, [2]

(ii) Dioaphramatic, [2]

(iii) Coastal, [2]

(iv) Apnea, [2]

(v) Hyperpnea. [3]

8 Describe the causes of ill health in farm animals under the following:

(a) Nutritional problems, [10]

(b) Pathogenic organisms. [10]

9 Discuss factors considered when formulating feeds for livestock in Zimbabwe. [20]

10 **(a)** Outline the advantages and disadvantages of rotational grazing systems in livestock production.

(i) Advantages, [10]

(ii) Disadvantages. [4]

(b) Explain the advantages of indigenous breeds over exotic breeds of livestock. [6]