

Candidate Name

Centre Number

Candidate Number



ZIMBABWE SCHOOL EXAMINATIONS COUNCIL
General Certificate of Education Ordinary Level

4025/2

BIOLOGY

PAPER 2 Theory

2 hours

JUNE 2019 SESSION

Candidates answer on the question paper

Additional materials:

Electronic calculator

Pencil (type HB is recommended)

Allow candidates 5 minutes to count pages before the examination.

This booklet should not be punched or stapled and pages should not be removed.

Time 2 hours

INSTRUCTIONS TO CANDIDATES

Write your name, centre number and candidate number in the spaces at the top of this page.
Write your centre number and candidate number in the box on the top right corner of every page of this paper.

Check that all the pages are in the booklet and ask the invigilator for a replacement if there are duplicate or missing pages.

Section A

Answer **all** questions.

Write your answers in the spaces provided on the question.

Section B

Answer any **four** questions.

Write your answers in the spaces provided on the question.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets [] at the end of each question or part question.

Section A

*Answer **all** questions in this section*

- 1 (a) State any **two** science laboratory rules.

1
.....
2
..... [2]

- (b) Give any **two** possible causes of accidents in a science laboratory.

1
2 [2]

- (c) Describe how a sand bucket is used to control fires in a science laboratory.

.....
..... [2]

- (d) Suggest any **four** ways of taking good care of a microscope.

1
2
3
4 [4]

2. (a) Complete Table 2.1 by naming the organelles.

Table 2.1

function	organelle
controls the activities of a cell	
site for aerobic respiration in a cell	
controls entry and exit of substances in a cell	
helps to maintain pressure within a cell	

[4]

- (b) Explain why

- (i) the sperm cell contains large amounts of mitochondria,

.....
 [2]

- (ii) red blood cells lack nuclei.

.....
 [2]

- (c) State any **two** differences between a plant cell and an animal cell.

1
 2 [2]

3. (a) (i) Write word equations to show the action of enzymes on

fat,

protein.

[4]

(ii) Explain the use of enzymes in biological washing powders.

[2]

(iii) Suggest, with a reason, the effect of using cold water on stain removal capacity of biological washing powders.

effect

reason

[2]

(b) Explain the effects of denaturation on enzyme activity.

[2]

4. (a) Table 4.1 shows incomplete information on the parts of an ear and their functions.

Complete Table 4.1.

Table 4.1

part of an ear	function
pinna	
	secretes wax to trap dust and pathogens.
semi circular canal	
	enabling hearing

[4]

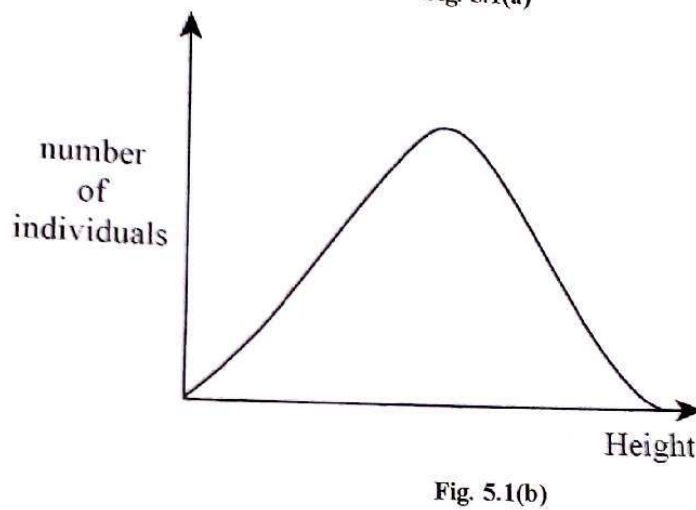
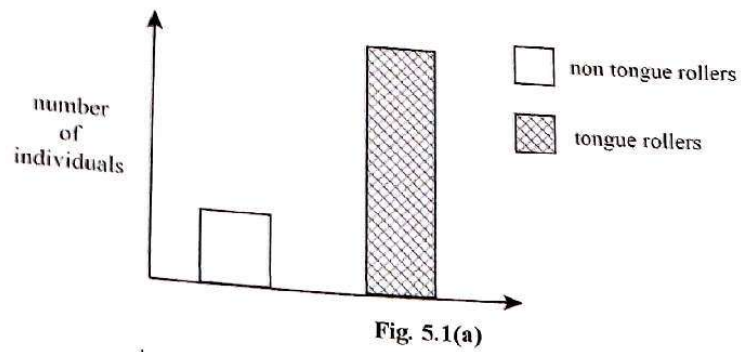
- (b) State any **three** possible causes of deafness.

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..... [3]

- (c) Explain why it is **not** advisable to listen to very loud music through earphones.

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..... [3]

5 (a) (i) Fig. 5.1 (a) and Fig. 5.1 (b) show variation in two human characteristics.



Identify the types of variation shown in:

Fig. 5.1 (a)

Fig. 5.1 (b) [2]

(ii) State the **two** causes of variation.

1

2 [2]

(iii) Suggest **three** factors that may affect variation in **Fig. 5.1 (b)**.

- 1
- 2 [3]
- 3

(b) Explain how artificial selection might be of economic importance to a farmer.

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-
-
- [3]

6. (a) State the **two** main components of a food chain.

- 1
- 2 [2]

(b) State any **three** features of savanna soils in Zimbabwe.

- 1
- 2
- 3 [3]

(c) List any **two** disadvantages of an artificial ecosystem.

- 1
- 2 [2]

(d) Explain the importance of vegetative ground cover in an ecosystem.

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-
-
- [3]

Section B

*Answer any **four** questions from this section*

- 7 (a) Describe the functions of water in animals.

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..... [6]

- (b) Explain the importance of the high heat of vaporisation of water to living organisms.

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..... [4]

- 8 (a) Outline the differences between monocotyledonous plants and dicotyledonous plants.

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..... [6]

Explain the importance of the following factors in the development of a country's economy:

1. Human Resources

2. Capital Resources

3. Technology

4. Infrastructure

5. Government Policy

6. International Trade

7. Natural Resources

8. Education

9. Health

10. Environment

11. Innovation

12. Entrepreneurship

13. Financial System

14. Legal System

15. Social Structure

16. Culture

17. Religion

18. Language

19. Ethnicity

20. Gender

21. Age

22. Income

23. Wealth

24. Power

25. Influence

26. Status

27. Reputation

28. Prestige

29. Honor

30. Respect

31. Dignity

32. Freedom

33. Justice

34. Equality

35. Fairness

36. Transparency

37. Accountability

38. Integrity

39. Honesty

40. Trust

41. Cooperation

42. Teamwork

43. Collaboration

44. Partnership

45. Alliance

46. Coalition

47. Consortium

48. Joint Venture

49. Merger

50. Acquisition

51. Takeover

52. Buyout

53. Recapitalization

54. Restructuring

55. Reorganization

56. Consolidation

57. Integration

58. Synergy

59. Scale

60. Scope

61. Depth

62. Breadth

63. Length

64. Width

65. Height

66. Volume

67. Mass

68. Quantity

69. Amount

70. Sum

71. Total

72. Aggregate

73. Composite

74. Combined

75. Merged

76. United

77. Joined

78. Connected

79. Linked

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81. Bound

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- 10 (a) Describe the risk of drinking alcohol during pregnancy.

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- (b) Explain why antibiotics are ineffective in treating diseases caused by viruses and protozoa.

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- 11 (a) Using examples, distinguish between infectious diseases and non-infectious diseases.

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- (b) Suggest ways of reducing the spread of sexually transmitted infections in Zimbabwe.

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- 12 (a) Describe how natural selection can lead to evolution.

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- (b) Explain the need for animal breeding.

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