Centre Number

Candidate Number



ZIMBABWE SCHOOL EXAMINATIONS COUNCIL

General Certificate of Education Ordinary Level

BIOLOGY

PAPER 2 Theory Structured

4025/2

NOVEMBER 2019 SESSION

2 hours

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.

TIME: 2 hours

INSTRUCTIONS TO CANDIDATES

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

Section B

Answer any four questions.

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

INFORMATION FOR CANDIDATES

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

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Section A

Answer all questions in this section

1. (a) (i) Fig. 1.1 illustrates the lock and key hypothesis of enzyme activity.

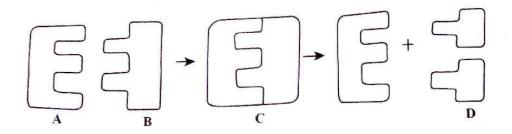


Fig. 1.1

Iden	urly, with a reason, C and D.	
C		
reaso	on	
D ,		
reaso	on	[4]
(ii)	State the type of reaction shown.	
		[1]
(iii)	Suggest the property of enzymes that allows formation of C.	
		[1]
(iv)	Explain why enzymes are efficient in small quantities.	
		[1]

		(ii)	State any one reagent used when testing for fats.	
2.	(a)	Defin	[1] [Total: 10] e the term <i>geotropism</i> .	I
	(b)	Descr	ibe the effect of gravity stimuli to a horizontal	2]
		(i)	root of a plant,	
				[3]
		(ii)	shoot of a plant.	[2]
			The state of the s	[

Write a word equation for the digestion of fats.

(i)

(b)

	(c)) Ex	plain the importance of geotropism to plants.	
			Company and the second of the	
		2.5.5.5		
		****	The second secon	
			[10tal: [0]]	
3,	(a)	Fig.	. 3.1 shows the structure of a human ovum.	
			$C \longrightarrow A B$	
			Fig. 3.1	
		Iden	tify parts A, B and C.	
		A		
		В		
		C		[3]
	(b)	Relate	e the structure of an ovum to its function.	

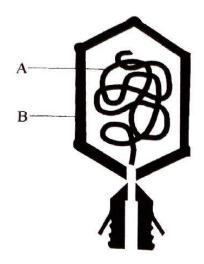
				[4]

4025/2 N2019

	(c)	State any three differences between an ovum and a palisade cell.
		provinces accommodately by the same and the contract of the contract of the contract of the contract of
		[Total: 10]
\$.	(a)	(i) Name the causative agent of bilharzia.
		To see the discourse and the contract of the c
		[1]
		(ii) State the mode of transmission of bilharzia.
		[1]
	(b)	Describe the signs and symptoms of bilharzia.
		[4]

(c) Outline measures taken to reduce the spread of bilharzia.	
The state of the s	
	[4]
į	[Total: 10]

5. (a) (i) Fig. 5.1(a) and Fig. 5.1(b) show the structure of a virus and a



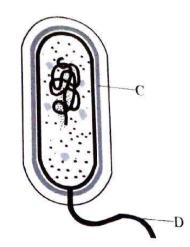


Fig. 5.1(a)

Fig. 5.1(b)

Identify parts A, B, C and D.

A

B

C

D

(ii) Name the major chemical constituent of part C.

[1]

(b)	Exp	lain why viruses do not belong to any kingdom.	
	East 1994	[4] [Total: 10]	
(a)	(i)	Fig. 6.1 is a drawing of an organism found in the soil.	
		Fig. 6.1	
		Identify the organism.	
			[1]
	(ii)	State any three roles of the organism in the soil.	
		1	
		3	r21
	(iii)	State any two other biological components of soil.	[3]
		1	
		2	[2]

Suggest solutions to soil erosion at an abandoned mine site	
and the same of th	
	(Tota

Section B

Answer any four questions from this section.

7.	(a)	Describe the differences between plant cells and animal cells.	
		The section of the se	
		There is the transfer of the second desired executive or determination of the colored	
		Annous commence against the first consequent (Processors (Processors (Processors)))	
			[4]
	(b)	Relate the structure of the sperm cell to its function.	
		[Total:]	[6] 10]
		[Total.	-

8.	(a)	Describe the importance of vegetative propagation to a market gardener.
		enances contributive construction and these takes are account to the construction of the construction.
		(a) 1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/
		[6]
	(b)	Explain the economic importance of plants to humans.
		201 000 (2011) (2011) (2011) (2011) (2011) (2011) (2011) (2011) (2011) (2011) (2011) (2011) (2011) (2011) (2011)
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		[4]
		[Total: 10]

(a)	Outline the functions of the liver.	
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		[6]
b)	Explain the effect of blockage of the bile duct on lipid digestion.	[6]
b)	Explain the effect of blockage of the bile duct on lipid digestion.	[6]
b)		[6]
(b)		[6]
b)		[6]
(b)		[6]
(b)		
b)		[4

9.

(a)	Describe now insulin is produced by recombinant DNA technology	
	the state of the s	
		Les i
(b)	Explain the benefits of recombinant DNA technology.	[6]
	Tratal:	[4]
		(b) Explain the benefits of recombinant DNA technology.

11.	(a)	Differentiate, using named examples, between continuous variation and
		discontinuous variation.
		The state of the s
		[6]
	(b)	Explain how variation leads to natural selection.
		[4] [Total: 10]

4025/2 N2019

2.	(a)	Describe the role of micro organisms in the nitrogen cycle.	
		[6]	
	(b)	Compare natural ecosystems and artificial ecosystems.	
		MATERIAL PROPERTY AND ASSESSMENT OF THE PROPERTY OF THE PROPER	
		[4 [Total: 10]]
		[Total. 10]	