### AGA KHAN UNIVERSITY EXAMINATION BOARD

#### SECONDARY SCHOOL CERTIFICATE

#### **CLASS IX EXAMINATION**

#### APRIL/MAY 2019

**Biology Paper II** 

Time: 2 hours 15 minutes Marks: 35

#### **INSTRUCTIONS**

Please read the following instructions carefully.

1. Check your name and school information. Sign if it is accurate.

I agree that this is my name and school. Candidate's Signature

#### **RUBRIC**

- 2. There are NINE questions. Answer ALL questions. Questions 8 and 9 each offer TWO choices. Attempt any ONE choice from each.
- 3. When answering the questions:

Read each question carefully.

Use a black pointer to write your answers. DO NOT write your answers in pencil.

Use a black pencil for diagrams. DO NOT use coloured pencils.

DO NOT use staples, paper clips, glue, correcting fluid or ink erasers.

Complete your answer in the allocated space only. DO NOT write outside the answer box.

4. The marks for the questions are shown in brackets ().

Page	2 of 12		
Q.1.			(Total 3 Marks)
a.	Differentiate between micro-molecules a	and macro-molecules.	(1 Mark)
b.	Classify the given molecules as micro-m	nolecules or macro-molecules.	(2 Marks)
	<ul><li>i. Starch</li><li>ii. Water</li><li>iii. Oxygen</li><li>iv. Haemoglobin</li></ul>		
	Micro-molecule	Macro-molecule	

Micro-molecule	Macro-molecule
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Page 3 of 12			
Q.2.			(Total 3 Marks)
The given diagrams show an experimen	nt to study the conditions	s necessary for germination	on of seeds.
Expected Result:			
Seeds in test tube <b>I</b> would germinate wi	hile there would be no go	ermination in test tubes II	I and <b>III</b> .
Seeds Cotton Water	Seeds Cotton Water	Oil Seed Boile	d Water
Test tube <b>I</b> : (kept at 37°C)	Test tube <b>II</b> : (kept at 2°C)	Test tube <b>III</b> : (kept at 37°C)	(no air)
Explain why  a. the seeds in test tube <b>I</b> would ger	minate.	cillos	(1 Mark)
b. the seeds in test tube <b>II</b> would no	t germinate.		(1 Mark)
c. the seeds in test tube <b>III</b> would no	ot germinate.		(1 Mark)
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Page 4 of 12	
Q.3.	(Total 3 Marks)
List any THREE human activities that cause deforestation.	
Q.4.	(Total 3 Marks)
The given diagrams show two forms of the same amoebae.	
I II	
Which of the two amoebae forms, <b>I</b> or <b>II</b> , will have greater surface area? Support your suitable description.	answer with
suitable description.	
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Page	e 5 of 12	
Q.5.		(Total 3 Marks)
Give	e ONE advantage of each of the given features of the respiratory system of human b	eings.
a.	C-shaped rings in the walls of trachea	(1 Mark)
b.	Single layer of epithelial cells in alveolar walls	(1 Mark)
c.	Mucus production in the inner walls of bronchi	(1 Mark)
Q.6.		(Total 2 Marks)
The	given graph shows the activity of an enzyme in the human body at different pH.	
vity		

Rate of enzyme activity
0 2 4 6 8 10 12 14
pH

Extract any TWO interpretations from the given graph.

Page 6 of 12	
Q.7.	(Total 3 Marks)
Give reasons for the following adaptations of blood vessels.	
a. Veins have valves.	(1 Mark)
b. Capillaries have one-cell thick epithelium.	(1 Mark)
c. Arteries have thick muscular walls as compared to vein	s. (1 Mark)
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Pag	ge 7 of 12	
Q.8	3. (Total	7 Marks)
	EITHER	
a.	Bacterial cell is classified as a prokaryotic cell while a plant cell as a eukaryotic cell.	
	With reference to the given classification, mention any THREE similarities and FOUR differences between a bacterial and a plant cell.	7 Marks)
	OR	
b.		
	i. Write a balanced chemical equation for photosynthesis.	(1 Mark)
	ii. Explain the role of the THREE limiting factors in photosynthesis.	6 Marks)
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Page 8 of 12
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Page	e 9 of 12
Q.9.	(Total 8 Marks)
	EITHER
a.	Describe any TWO structural features of each of the following organs of the digestive system of human beings which help them to function efficiently.
	i. Stomach (4 Marks)
	ii. Small intestine (4 Marks)
	OR
b.	In plants, water continuously moves from roots to xylem and transpires through leaves.
	Explain the transportation of water in plants with reference to transpiration pull. (8 Marks)
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Page 10 of 12
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Page 12 of 12

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Reaching Learning only