## AGA KHAN UNIVERSITY EXAMINATION BOARD

## SECONDARY SCHOOL CERTIFICATE

## **CLASS X EXAMINATION**

#### **MAY 2012**

# **Biology Paper II**

Time allowed: 2 hours 25 minutes Marks 40

# **INSTRUCTIONS**

Please read the following instructions carefully.

1. Check your name and school information. Sign that it is correct.

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

- 2. RUBRIC. There are NINE questions. Answer ALL NINE questions. Questions 7, 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 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 ( ).

	e 2 of 8	
Q.1		(Total 4 Marks)
a.	How is photosynthesis different from respiration?	(2 Marks)
	Photosynthesis	Respiration
	1	
	2	
b.	The diagram shows a section of the human skin.	(2 Marks)
	blood capill  Briefly describe the role of the labelled structure M	
Q.2		(Total 4 Marks)

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b.	Recall your kno	wledge about a brain disorder called epilepsy and comple	ete the given table. (2 Marks)
		1.	
	Symptoms	2.	
	Treatment		
Q.3.			(Total 5 Marks)
a.	The diagram sho	ows a joint of the skeletal system.	(3 Marks)
	Identify structur	Bone 1  Synovial fluid  F  Bone 2  The F and describe the disorder which might occur if this state of the sta	ructure is degenerated.
b.	Why is water ne	ecessary for the germination of seeds?	(2 Marks)

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Q.4.							(Total 4 Ma
	Human blood is of an example of co						which blood group (2 Mag
	Variations are dif					riduals of th	ne same species.
	How is this pheno						(2 Ma
).5.							(Total 4 Ma
	g the given list of	organisms, o	construct a	a food web.	(You may not i	nclude all t	(Total 4 Mar he organisms)
		organisms, o	construct a	a food web.	(You may not i squirrels	nclude all the	
Jsing	s beetles						he organisms)
Jsing Bats	s beetles	spiders	grass	eagles	squirrels	humans	he organisms) Rabbits
Jsing Bats	s beetles	spiders	grass	eagles	squirrels	humans	he organisms) Rabbits
Using Bats	s beetles	spiders	grass	eagles	squirrels	humans	he organisms) Rabbits
Using Bats	s beetles	spiders	grass	eagles	squirrels	humans	he organisms) Rabbits
Bats	s beetles	spiders	grass	eagles	squirrels	humans	he organisms) Rabbits

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<ul><li>Q.6.</li><li>a. Who should include single cell proteins in his/her diet? Why?</li></ul>	(Total 4 Marks) (2 Marks)	
b. State TWO conditions under which sedatives are prescribed by a doctor.	(2 Marks)	
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Q.7	. (Total 5 Marks)	
	EITHER	
a.	As of 2009, 300 million people worldwide were affected by asthma leading to approximately 250,000 deaths per year. Highlighting at least THREE causes of asthma attack, describe the phenomenon of this disease.	
	OR	
b.	Dialysis is primarily used to provide an artificial replacement for lost kidney function in people with renal failure. Elaborate the given statement with reference to the composition of the dialysing fluid and its working.	
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Q.8	. (Total 5 Marks)		
	EITHER		
a.	With the help of examples, describe the types of movable joints in man.		
	OR		
b.	With the help of labelled diagrams only, describe the processes of fragmentation and multiple fission in named organisms.		
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Q.9.	(Total 5 Marks)	
	EITHER	
a.	What are the objectives of genetic engineering? With the help of an example justify how genetic engineering is trying to meet its objectives.	
	OR	
b.	In order to acquire best protection, it is recommended to receive vaccinations in early childhood. Explain how vaccines can provide best protection against diseases.	
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	END OF PAPER	