

AGA KHAN UNIVERSITY EXAMINATION BOARD

SECONDARY SCHOOL CERTIFICATE

CLASS IX EXAMINATION

MAY 2015

General Science Paper II

Time: 2 hours 20 minutes Marks: 45

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**

2. RUBRIC. There are TEN questions. Answer ALL questions. Questions 8, 9 & 10 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 ().

Q.1. (Total 4 Marks)

a. Why do living things need carbon? (1 Mark)

b. From where do plants get carbon? (1 Mark)

c. From where do animals get carbon? (1 Mark)

d. Identify from the following the main source of carbon that causes global warming. (1 Mark)

- i. Bio-fuels
- ii. Fossil-fuels
- iii. Bio-mass

Q.2.

(Total 4 Marks)

Name the main components of blood and describe their structure and functions in a human body.

Q.3.

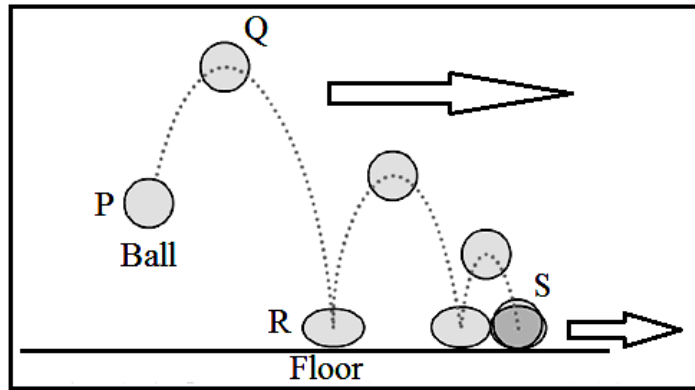
(Total 4 Marks)

Define recycling. Give any THREE examples of objects of everyday use which can be recycled.

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Q.4. (Total 4 Marks)

In the given figure, a ball is thrown by a child on the floor. The ball rises from its initial position **P** to its maximum height **Q**. It hits the floor again at position **R**, bounces a few times and rolls towards position **S**.



a. Name the forms of energy possessed by the ball at: (2 Marks)

- i. position **P**;
- ii. position **S**.

b. State the change in energy when the movement of the ball is between (2 Marks)

- i. position **P** and **Q**;
- ii. position **Q** and **R**.

Q.5.

(Total 5 Marks)

Solar energy is an alternative source of energy which is renewable and does not pollute the environment.

a. Name TWO forms of energy obtained directly from the sun. (2 Marks)

b. Name TWO forms of energy obtained indirectly from the sun. (2 Marks)

c. Name the device that is used to convert solar energy into electrical energy. (1 Mark)

Q.6. (Total 4 Marks)

Following are some safety hazards associated with electricity.

- i. Electric shock
- ii. Burns
- iii. Fire
- iv. Explosion

State how each of them can be caused.

Q.7.

(Total 5 Marks)

Write ONE use of each of the following:

- i. Ammeter
- ii. Voltmeter
- iii. Multimeter
- iv. Analog meter
- v. Digital meter

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Q.8. (Total 5 Marks)

EITHER

a. Name and define the discoveries and inventions of any TWO Arab Muslim scientists.

OR

b. Define the relationship that exists between each of the following branches of science.

- i. Physics and chemistry
- ii. Chemistry and biology
- iii. Mathematics and physics
- iv. Geology and geography

Q.9.

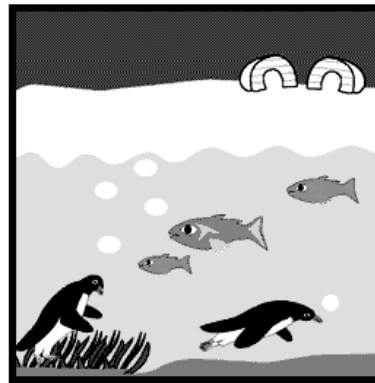
(Total 5 Marks)

EITHER

- a. State FIVE ways in which photosynthesis and respiration together balance the oxygen level in atmosphere.

OR

- b. The given picture of a pond is showing that when the temperature of atmosphere falls below 0°C , water gradually freezes to ice which forms a layer on the surface of the pond.



How does the layer of ice form on the surface of water and how is it possible for aquatic life to survive despite this extreme temperature?

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Q.10.

(Total 5 Marks)

EITHER

- a. Describe the role of antibiotics and vaccines in the field of medicine. Name TWO diseases which can be prevented by vaccines and ONE which can be treated with antibiotics.

OR

- b. Describe any FIVE effects of excessive use of pesticides on plants, animals and human beings.

END OF PAPER

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Please use this page for rough work