

AGA KHAN UNIVERSITY EXAMINATION BOARD

SECONDARY SCHOOL CERTIFICATE

CLASS IX EXAMINATION

MAY 2012

Physics 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 & 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 ().
5. You may use a simple calculator if you wish.

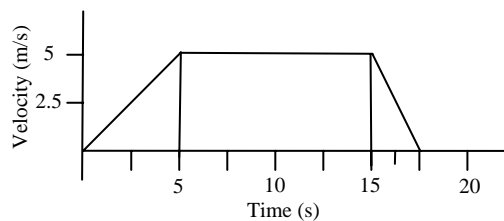
Q.1. (Total 3 Marks)

Complete the given table.

Physical Quantity	S.I. Unit	Symbol
Mass		
Electric current		
Luminous intensity		

Q.2. (Total 6 Marks)

The velocity time graph represents the motion of the cyclist travelling on a straight levelled road.



i. What will the velocity of the cyclist be after 5 seconds?

ii. During which interval of time will the cyclist have no acceleration?

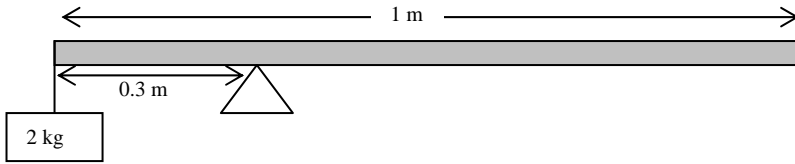
iii. How much distance (d) is covered during 5 to 15 seconds?

iv. Find the deceleration.

Q.3.

(Total 3 Marks)

A uniform rod is balanced with a mass of 2 kg on its left end.



Using the information given in the diagram, calculate weight of the rod. (Take $g = 10 \text{ m/s}^2$)

Q.4.

(Total 3 Marks)

The pull of gravity is one of the important forces present on earth.

State any THREE important facts which explain the importance of pull of gravity on earth.

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Q.5. (Total 6 Marks)

a. Differentiate between renewable and non-renewable energy sources. (2 Marks)

	Renewable energy sources	Non-renewable energy sources
1		
2		

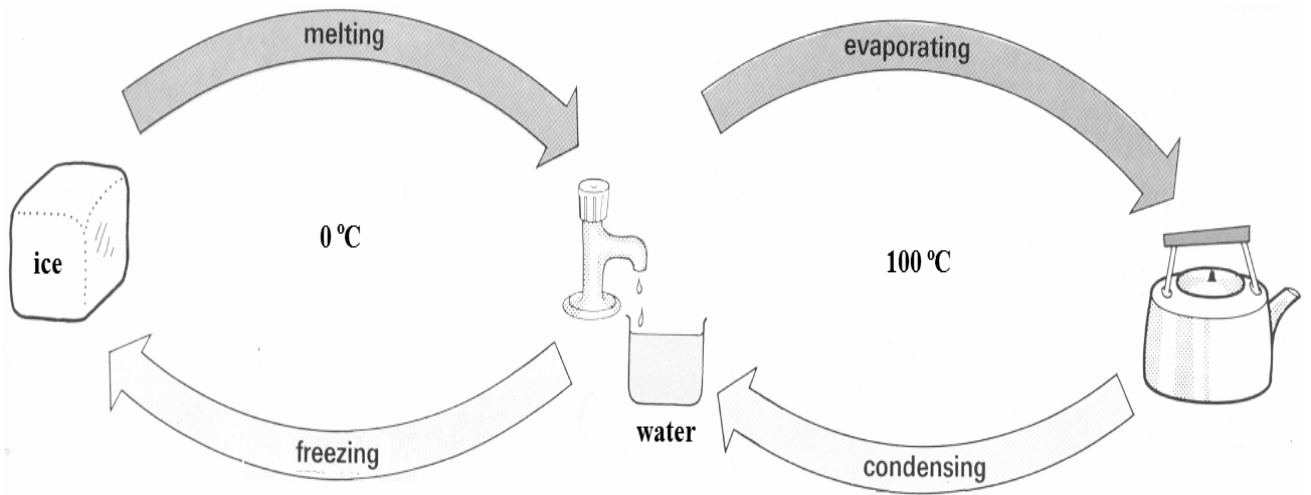
b. Give any TWO examples each of renewable and non-renewable energy sources. (4 Marks)

S.No.	Examples of renewable energy sources	Examples of non-renewable energy sources
1		
2		

Q.6.

(Total 4 Marks)

Describe the processes mentioned in the given diagram.



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Q.7.

(Total 5 Marks)

EITHER

- a. Derive Newton's second equation of motion for a body moving with initial velocity V_i with constant acceleration a at time t .

OR

- b. Give any FIVE differences between mass and weight.

Q.8.

(Total 5 Marks)

EITHER

a. Under what conditions is the work done called positive, negative and zero work?

Give ONE example each of positive and negative work.

OR

b. Define the following terms:

- i. Stress
- ii. Tensile strain
- iii. Young's modulus

Also write the formulae for stress and tensile strain.

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Q.9. (Total 5 Marks)

EITHER

a. Evaporation occurs at all temperatures whereas boiling takes place at a certain temperature determined by the external pressure. Justify the given statement.

OR

b. Radiation is a method of heat transfer whereby heat energy is transmitted from a hot object to another in the form of infra-red. Discuss any FIVE applications of radiation.
