

# City International School

ANNUAL EXAMINATION 2015 - 2016

Date : 11/03/2016

Std : VIII

Subject : Physics (Paper 1)

Marks : 80

Time : 2 hrs

Answer to this question must be written on the paper provided separately.

You will not be allowed to write during the first 15 minutes.

This time is spent in reading the question paper.

The time given at the head of this paper is the time allowed for writing the answers.

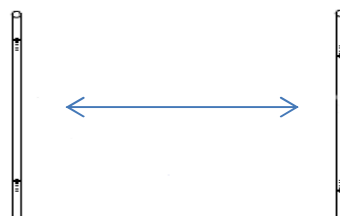
Attempt all questions from **SECTION A** and four questions from **SECTION B**.

The intended marks for questions or parts of questions are given in the bracket. ( )

## SECTION A [40 MARKS]

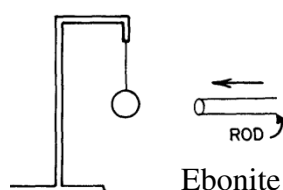
Attempt all questions

- Q. 1**
- a. Why are dams thicker at the base?? (2)
  - b.
    - i. State any one consequence of low pressure experienced by mountaineers (2)
    - ii. Name one factor which is not affected by in Boyle's law.
  - c.
    - i. What happens when two substances are rubbed together? (2)
    - ii. Define electroscope.
  - d. How can the strength of an electromagnet be increased? (2)
  - e. Complete by redrawing the diagram and showing the lines of force direction of the current (2)



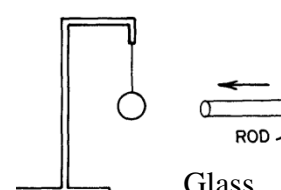
- Q. 2**
- a.
    - i. State Archimedes principle (2)
    - ii. How is it mathematically written?
  - b. What charge develops on the pith ball when the following rods as shown are brought close to them (2)

i.



Ebonite

ii.



Glass

- c. Complete the sentence:
  - i. A Generator works on the principle of \_\_\_\_\_ (2)
  - ii. The apparent weight of a \_\_\_\_\_ body is zero.

- Q. 3**
- a.
    - i. Define lightning. (2)
    - ii. Name the scientist who proved that lightning was due to static electricity.
  - b.
    - i. Define magnetic field.
    - ii. State the property of a magnet which shows behavior of two magnets with respect to its poles. (2)
  - c.
    - i. Why is an atom electrically neutral? (2)
    - ii. Where are electromagnets used?

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- Q.4** a. State the odd one out and mention the reason: (2)  
mass, weight, upthrust, apparent weight

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- Diagram A shows a circuit with a battery, a switch, and a vertical rod with a spiral coil. The rod is labeled 'B' at the bottom.

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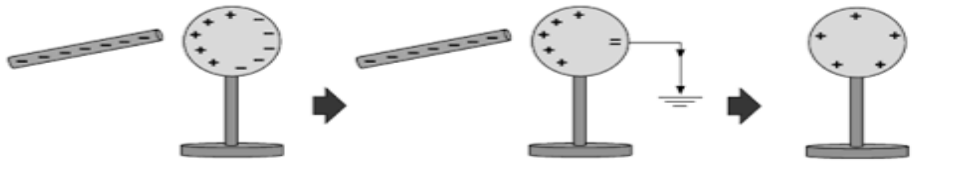
- d. Why does food cook faster in a pressure cooker? (2)
- e. Complete the following statement. (2)  
When a body is floating, it experiences two forces.....

**SECTION B [40 MARKS]**  
**Attempt any four questions.**

**Q. 5** a. With respect to an electromagnet, answer the following questions.

- i. Define electromagnetism (3)
- ii. How does it lose its magnetic property?
- iii. Any one practical application of an electromagnet.

b. (3)



- i. Which method is shown in the following diagram?
- ii. Define the above method identified.
- iii. Which rod (specify material) is used to develop the charge on the pith ball?

c. State the methods to increase the intensity of magnetic field of a current carrying solenoid. (4)

**Q. 6** a. With respect to a dynamo, answer the following questions. (3)

- i. State its principle
- ii. Name the energy conversion.
- iii. Explain the working of a dynamo.

b. i. State the difference in pressure felt by a person when he is at ground level to that of an airplane? (3)

ii. How does a pilot reduce the discomfort of a passenger?

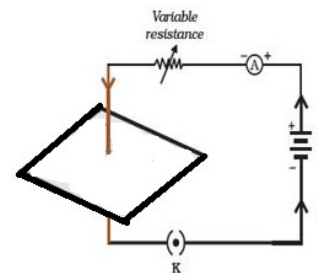
c. Complete the sentence (4)

- i. One pascal is \_\_\_\_\_ per square meter.
- ii. One torr supports \_\_\_\_\_ of mercury in a barometer.
- iii. One atmosphere = \_\_\_\_\_ mm of \_\_\_\_\_

**Q. 7** a. i. Redraw the diagram showing the magnetic lines of force. (4)

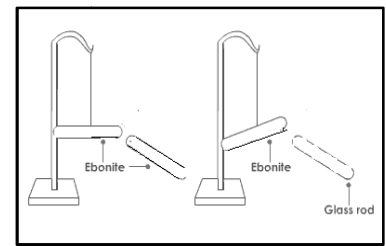
ii. What happens when the direction of current is changed?

iii. Which rule is applicable to find the direction of magnetic line?



b. When is the magnetic field said to be uniform? (3)

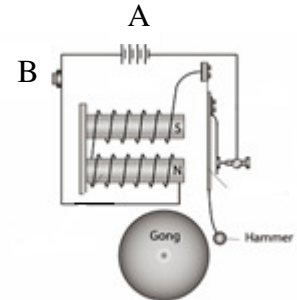
- c. i. What forces are experienced by the rods in the diagram shown alongside  
 ii. State the reason for the above observation.



(3)

- Q. 8** a. i. Water is not preferred as a barometric liquid. Why?  
 ii. Where is the magnetic force of a bar magnet the strongest?  
 iii. Draw a neat labeled diagram to show pressure increases with depth.

- b. i. Identify A and B marked in the diagram given alongside.  
 ii. Name the rule applicable to identify the polarity of an electromagnet.  
 iii. How can the polarity be changed?



(3)

- c. Why does atmospheric pressure decrease with increase with altitude? (2)  
 d. Name the odd one out and state its reason. (2)  
 Ship , boat , cork , small iron ball

- Q. 9** a. Differentiate between conductor and insulator. (3)

- b. i. Define Solenoid. (3)  
 ii. Name the material used to make the tip of a screw in an electric bell.  
 iii. State the energy conversion in an electric motor?

- c. i. What is lightning? (4)  
 ii. State its effects.  
 iii. Why is the sound of thunder heard a few seconds after the lightning is seen?