

**ICSE Board**  
**Class VIII Physics**  
**Sample Paper – 5**

**Time: 2 hrs**

**Total Marks: 75**

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**General Instructions:**

1. *All questions are **compulsory**.*
  2. *Questions 1 to 15 carry one mark each.*
  3. *Questions in 2A and 2B carry one mark each.*
  4. *Questions in 3A and 3B carry one mark each.*
  5. *Question 4A and 4B carry five marks each.*
  6. *Question 5A and 5B carry five marks each.*
  7. *Question 6A and 6B carry five marks each.*
  8. *Question 7A and 7B carry five marks each.*
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**Question 1**

Choose the correct answer out of the four available choices given under each question. [15]

1. Which of the following is not a property of magnetic lines of force?
  - (a) Each line is a closed and continuous curve
  - (b) They originate at the North Pole
  - (c) They never intersect each other
  - (d) They are crowded near the centre of the magnet
  
2. A lightning streak is a type of
  - (a) Electric discharge
  - (b) Electrostatic repulsion
  - (c) Electrostatic attraction
  - (d) None of the above
  
3. If the density of an object is greater than the density of the liquid in which the body is kept, then the object will
  - (a) Float on liquid
  - (b) Sink in liquid
  - (c) Partially sink in liquid
  - (d) Can't predict on the basis of the density alone
  
4. The force of attraction between molecules of similar kind is called
  - (a) Force of adhesion
  - (b) Intramolecular force of repulsion
  - (c) Force of cohesion
  - (d) Intermolecular force of adhesion

5. The distance of the lens from the film of a camera can be changed by turning the
  - (a) Focusing ring
  - (b) Diaphragm
  - (c) Shutter
  - (d) View finder
  
6. The angle between the incident ray and the emergent ray of a prism is called
  - (a) Angle of emergence
  - (b) Angle of incidence
  - (c) Angle of deviation
  - (d) Angle of refraction
  
7. Which of the following feature does not hold true for a fuse?
  - (a) It has a low melting point
  - (b) It has high resistance
  - (c) It is used to break circuits when a large current flows
  - (d) It is used at the end of any household circuit
  
8. Which among these is not a type of coal?
  - (a) Bituminous
  - (b) Anthracite
  - (c) Asphalt
  - (d) Lignite
  
9. Which among these is not a non-renewable source of energy?
  - (a) Natural gas
  - (b) Biogas
  - (c) Forests
  - (d) Coal
  
10. The heat required to change the state of a substance without any change in temperature is
  - (a) Specific latent heat
  - (b) Specific heat capacity
  - (c) Thermal heat capacity
  - (d) State heat capacity
  
11. The image formed by a convex lens is observed to be virtual, erect and larger than the object. Hence, the position of the object should be
  - (a) Between the focus and the centre of curvature
  - (b) At the centre of curvature
  - (c) Beyond the centre of curvature
  - (d) Between the optical centre and the focus

12. Which among the following is not a natural satellite of any planet?

- (a) Ceres
- (b) Phobos
- (c) Deimos
- (d) Moon

13. Which among the following is not true for a transformer?

- (a) A step-up transformer has more number of turns in the secondary coil
- (b) A step-down transformer increases the input voltage
- (c) A step-down transformer has more number of turns in the primary coil
- (d) A step-up transformer increases the input voltage

14. The pressure inside a liquid

- (a) Increases with a decrease in the depth
- (b) Increases with an increase in the depth
- (c) Decreases with an increase in the depth
- (d) Remains the same

15. Halley's Comet was last seen in the year

- (a) 1984
- (b) 1996
- (c) 1986
- (d) 1990

**Question 2**

(A) Match the columns and rewrite them correctly.

[5]

Column A		Column B	
1	Refraction through glass slab	1	Positive charge
2	Convex lens	2	Gaseous state to solid state
3	Sublimation	3	Angle of incidence = Angle of emergence
4	Glass rod	4	Natural magnet
5	Lodestone	5	Angle of incidence = Angle of refraction
		6	Magnifying glass
		7	Solid state to gaseous state
		8	Negative charge

**(B)** Fill up the blanks and rewrite the sentences: [5]

1. A \_\_\_\_\_ image is formed by a convex lens only if the object is placed between the focus and the optical centre of the lens.
2. We measure liquid pressure using a \_\_\_\_\_.
3. The direction of current can be detected using a \_\_\_\_\_.
4. The curvy shape of a liquid near the point of contact is called the \_\_\_\_\_ of the liquid.
5. The splitting of heavy nuclei into small nuclei is called \_\_\_\_\_.

### Question 3

**(A)** State whether the following statements are True or False. Correct the false statement and rewrite it. [5]

1. A conductor will not experience any force if the direction of the magnetic field is perpendicular to the direction of current.
2. The first satellite launched by the U.S.A. was the Explorer.
3. The permanent image on the film of a camera is called a photograph.
4. If the relative density of substance A is 0.85 and that of B is 1.15, then substance A is denser than water and B is lighter than water.
5. Thicker the wire, greater is its resistance.

**(B)** Give reasons for the following. [5]

1. Meteors are also known as shooting stars.
2. Cold drinks are efficiently cooled by ice pieces at 0°C.
3. All bodies immersed in a given fluid do not experience the same buoyant force.
4. An ebonite rod rubbed with fur becomes negatively charged.
5. A normal eye cannot clearly see an object kept closer than 25 cm.

### Question 4

**(A)**

1. Why is Pluto not a classical planet? [3]
2. How many calories are there in 2520 joules? [2]

**(B)**

1. Write the form of energy possessed by the body in the following situations: [2]
  - (a) A coconut falling from a tree
  - (b) An object raised to a certain height
  - (c) Wind blowing in an area
  - (d) A child driving a bicycle on a road

2. Answer the following: [3]
- (a) Mention the factors on which the direction of force experienced by a current carrying conductor, placed in a magnetic field, depends.
  - (b) Under what condition is the force experienced by a current carrying conductor placed in a magnetic field maximum?
  - (c) A proton beam is moving along the direction of a magnetic field. What force is acting on the proton beam?

**Question 5****(A)**

1. Can we recombine the seven spectral colors to obtain white light? Justify your answer. [2]
2. Explain how surface tension plays a role in the following examples: [3]
  - (a) Insects walking on water
  - (b) Working of a tent
  - (c) Soaps and detergents

**(B)**

1. Draw a labeled diagram of a gold leaf electroscope. Explain any one of its functions. [3]
2. A fan of power 300 W is used for 510 minutes. Calculate the electrical energy consumed in joules. [2]

**Question 6****(A)**

1. Define the following: [2]
  - (a) Focus of a concave lens
  - (b) Radius of curvature of a lens
2. State the relation between the pressure and the depth  $h$  in a liquid of density  $d$ . What is the pressure at the bottom of a flask of height 40 cm containing water with density  $1000 \text{ kgm}^{-3}$ ? [ $g = 9.8 \text{ ms}^{-2}$ ] [3]

**(B)**

1. Find the odd one out giving reasons. [2]
  - (a) 1 light year, 1 year, 1 parsec, 1 kilometre
  - (b) Corona, Photosphere, Umbra, Core
2. What is Joule's law of heating? An electric iron having resistance  $100 \Omega$  works for 30 minutes when a current of 2 A flows through it. What is the heat produced by the iron? [3]

**Question 7**

**(A)**

1. Write a short note on the human eye. [3]
2. State the properties of magnetic lines of force. [2]

**(B)**

1. A body of mass 200 g possesses 40 J of energy when placed at the top of a tower. How high is the tower? [ $g = 10 \text{ m/s}^2$ ] [2]
2. What is the principle of floatation? How is it utilised in submarines? [3]