

FIRST TERMINAL EVALUATION 2018-19  
**PHYSICS**

Standard: IX

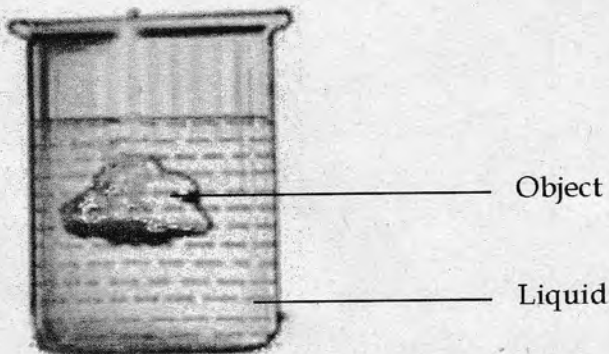
Time : 1½ Hour  
 Total Score : 40

**Instructions**

- First 15 minute is given as cool off time. This time is to be spent for reading and understanding the questions.
- Answer the questions based on instructions.
- Answer the questions according to score and time

Answer any **FOUR** questions from 1 to 5. Each question carries 1 score. (4 x 1 = 4)

1. Find the relation in the first pair and complete the second (1)  
 Kerosene : mobile liquid  
 Honey : .....
2. Analyse the position of an object in a liquid shown in the following diagram and choose the correct statement. (1)



- Weight of the object is more than buoyancy
  - Density of the liquid is greater than the density of the object
  - Density of the liquid is equal to that of the object.
3. During a penalty kick, a very large force is applied on the football in a very short interval of time. Write down the technical name of such a force. (1)
  4. On which of the following does inertia depends? (1)  
 (Time, Velocity, Mass, Speed)
  5. When the mass of one of the two bodies is doubled the gravitational force between them increases by ..... times. (1)

$\left( \frac{1}{2}, \frac{1}{4}, 2, 4 \right)$

Answer any **FOUR** questions from 6 to 10. Each question carries 2 score. ( $4 \times 2 = 8$ )

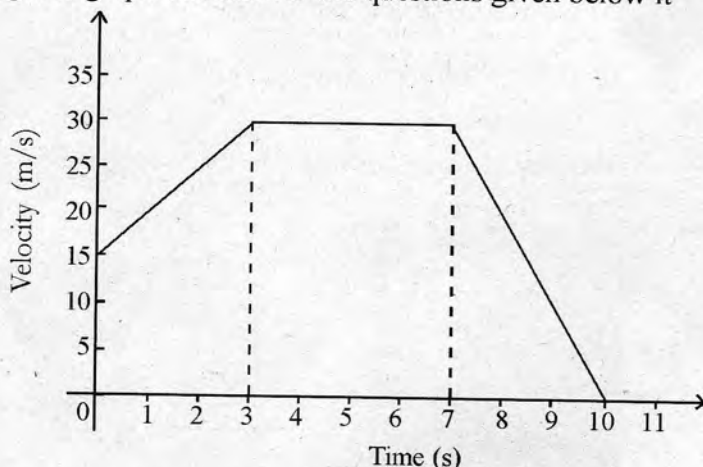
6. The observations of an experiment on buoyancy is tabulated below. Fill up the missing values in the table. (2)

Objects	Weight of the object in air	Weight of object in water	Loss of weight	Buoyancy
Stone	4 N	(a) .....	1.6 N	(b) .....
iron piece	(c) .....	3.8 N	(d) .....	1.2 N

7. A and B are two objects having same weight. If they experience different buoyancy in a liquid.

- a) What do you mean by buoyancy? (1)  
 b) Why do A and B experience different buoyancy? (1)

8. Observe the given graph and answer the questions given below it



- a) What is the final velocity of the body? (1)  
 b) What is the nature of motion of the body from 3 s to 7 s? (1)

9. Two bodies of masses 20 kg and 5 kg fall to ground from a height of 10 m.

- a) Which one possess greater momentum? (1)  
 b) Write the unit of momentum. (1)

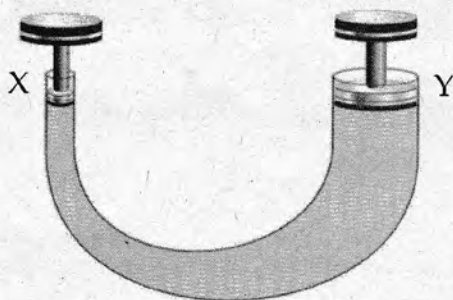
10. For every action there is an equal and opposite reaction. Write two daily life situations where this law is made use of. (2)

Answer any **FOUR** questions from 11 to 15. Each question carries 3 score. ( $4 \times 3 = 12$ )

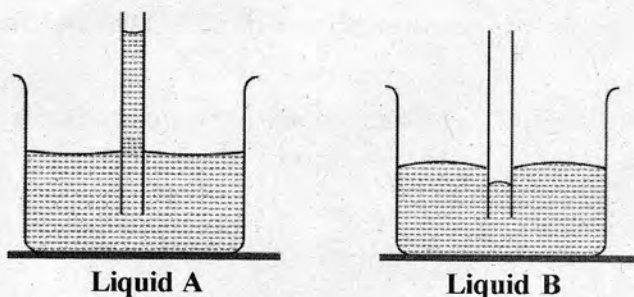
11. One drop each of coconut oil, Water and honey are placed at different points on a glassplate and tilted.

- a) Which liquid drop flows down fast? (1)  
 b) Why does it flow fast? (2)

12. Observe the given figure. The pressure acting on the piston 'X' is  $2400 \text{ N/m}^2$ .



- What is the pressure experienced at the end 'Y'? (1)
  - State the law which helps you to arrive at this conclusion? (1)
  - Name two devices that work on this principle. (1)
13. Observe the pictures. A and B are two liquids taken in two beakers. Two capillary tubes of same radius are dipped in them.



- Which liquid has greater cohesive force? (1)
  - What is meant by cohesion and adhesion? (1)
  - What is the relation between the diameter of the tube and the capillary rise. (1)
14. A car is travelling with a velocity of  $40 \text{ m/s}$ . The driver applies brake with a uniform retardation of  $5 \text{ m/s}^2$ .
- Find the time required to bring the car to rest? (1)
  - Calculate the distance travelled by the car after applying the break. (2)
15. A, B, C, D and E are five balls of identical mass and diameter.



- What happens when the ball A is moved back and made to hit on B? (1)
- What do you observe when the balls A and B are moved back together and then made to hit on C? (1)
- Which law is related to this? (1)

Answer any **FOUR** questions from 16 to 20. Each question carries 4 score. ( $4 \times 4 = 16$ )

16. The figure shows an arrangement to measure the relative density of a liquid

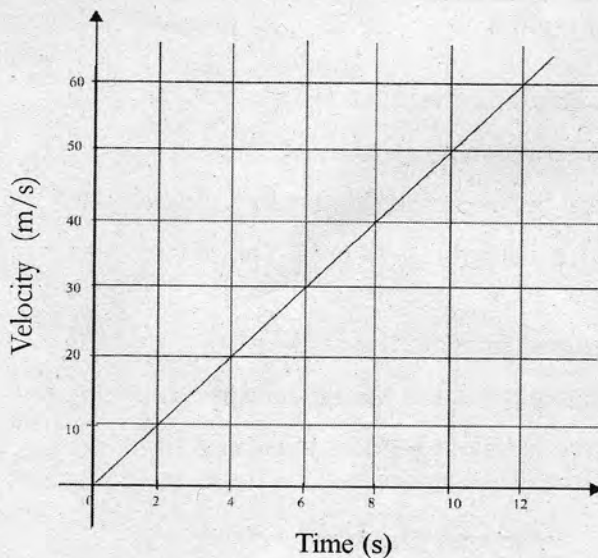


- a) Name the device. (1)
- b) What will be the reading when this device is dipped in water? (1)
- c) The relative density of kerosene is 0.81. Calculate its density. (The density of water is  $1000 \text{ kg/m}^3$ ) (2)

17. Aluminium foil in the form of a vessel floats on water. But the same foil when folded sinks in water.

- a) Is there any change in the density of aluminium foil, if it is in the form of vessel or in the folded form? (1)
- b) What is the reason for the aluminium foil vessel to float and the folded foil to sink? (2)
- c) If a folded aluminium foil floats on a liquid, then what is the relation between the density of the liquid and that of aluminium? (1)

18. A velocity - time graph of a body is shown.



- a) What is the initial velocity of the body? (1)
- b) What is its velocity after 6s? (1)
- c) Find out the displacement of the body in 10 s from the graph. (2)