

Class: VIII
Mid Term Examination 2025-26
Science
Marking key
Set :B1/B2

Time Allowed : 2.5 hr

MM:60

General instructions:

1. The question paper consists of three sections. Please attempt all questions of one section together. Do not mix your answers from one section into another. Attempt three separate sections of Physics, Chemistry and Biology on three separate answer sheets.

2.No.of printed pages are 5

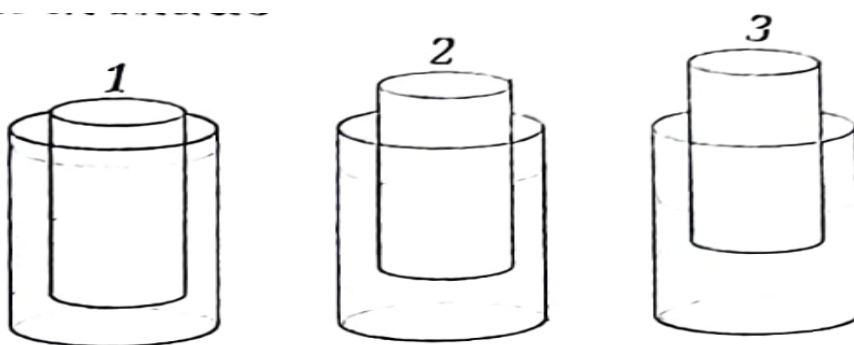
Physics (Section-A)

MM:20

Q1. Select and write one most appropriate option out of the four options given for each of the questions (i) to (iii) (1x3)

(i) Three objects 1, 2, and 3 of the same size and shape but made of different materials are placed in the water. They dip to different depths as shown in Fig. If the weights of the three objects 1, 2, and 3 are W_1, W_2 and W_3 respectively, then,

- (a) $W_1 = W_2 = W_3$
- (b) $W_2 > W_3 > W_1$
- (c) $W_1 > W_2 > W_3$
- (d) $W_3 > W_1 > W_2$



(ii) During dry weather, while combing hair, sometimes we experience hair flying apart. The force responsible for this is

- (a) force of gravity

- (b) force of friction
- (c) electrostatic force**
- (d) magnetic force.

(iii) A rubber sucker (M) is pressed on a flat smooth surface and an identical sucker (N) is pressed on a rough surface:

- (a) Both M and N will stick to their surfaces.
- (b) Both M and N will not stick to their surfaces.
- (c) M will stick but N will not stick.**
- (d) M will not stick but N will stick.

Q2. Assertion -Reasoning based questions. (1)

These consist of two statements – Assertion (A) and Reason (R). Answer these questions selecting the appropriate option given below:

- (a) Both A and R are true and R is the correct explanation of A
- (b) Both A and R are true and R is not the correct explanation of A
- (c) A is true but R is false
- (d) A is False but R is true

(i) Assertion (A) :When the high speed winds blow over the houses, weak roofs may blow away.

Reason (R): High speed winds resulting in lowering of air pressure.

ANS: (a) Both A and R are true and R is the correct explanation of A

Q3. State whether the following statements are True(T) or False(F) (1x2)

- (a) A force is always required to change the state of motion of an object.
- (b) Liquids exert pressure only at the bottom of a container.

ANS: (a) True, (b) False

Q4. Fill in the blank with an appropriate word(s): (1x2)

- (a) The force applied by a liquid on an object in the upward direction is known as _____
- (b) Air flows from a region of _____ pressure to a region of _____ pressure.

ANS: (a) Upthrust/buoyant force (b) Higher , lower

Q5 Short answer questions (2)

SET1

A marble is allowed to roll down an inclined plane from a fixed height. At the foot of the inclined plane, it moves on a horizontal surface covered by the following surfaces one by one:

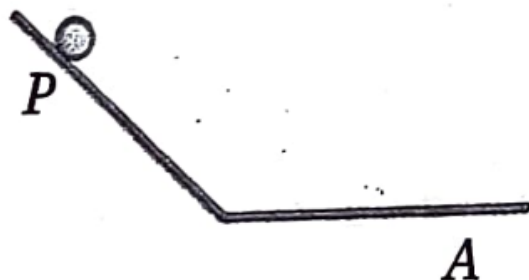
(i) covered with newspaper (ii) covered with a layer of sand and (iii) covered with a glass sheet.

On which surface will the marble move the largest distance. Give reason for your answer.

ANS: Glass sheet - smoother- least friction(opposing force) - largest distance

SET2

A ball is released from the point P and moves along an inclined plane and then along a horizontal surface as shown in the Fig.. It comes to stop at the point A on the horizontal surface. What can be done on the horizontal surface so that when the ball is released from the same point P, it stops (i) before the point A (ii) after crossing the point A.



ANS : (i) Increase the friction by spreading sand/newspaper /etc on surface (ii) decrease friction by using lubricant /spilling some water etc.so that it moves farther distance

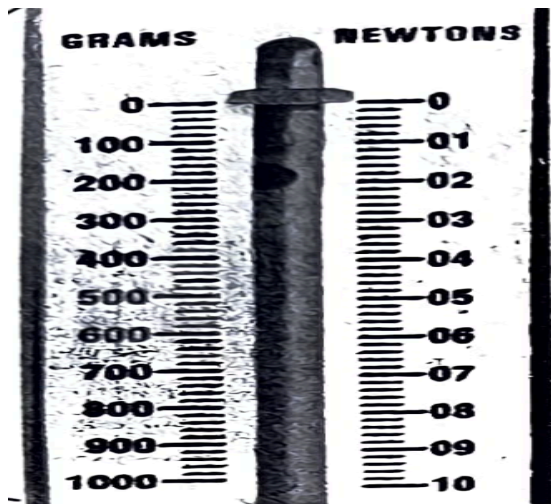
Q6. Fig. shows trees along the sea coast on a summer afternoon. Identify which side is land-- A or B. Explain your answer. (2)



ANS: In a summer afternoon, the sea is likely on side B. During the day, land heats up faster than the sea, causing the air above the land to rise and create a low-pressure area. Cooler air from the sea then rushes in to replace the rising air, resulting in a sea breeze blowing from the sea towards the land. Since the trees in the figure are bending towards side A, it indicates that the wind is blowing from side B towards side A, meaning side A is the LAND

Q7. Read the paragraph given below and answer the questions: (3)

The force with which the Earth pulls an object towards itself is called the weight of the object. The weight measures how strong an object is pulled by the Earth. Since the weight is a force, it is measured in the same unit as that of force. A spring balance is a simple device used to measure weight (force). There is a scale on the balance which is marked to show the weight as shown below.



Based on this information answer the following questions:

- (a) Calculate the value of one small division on the Newton scale of a spring balance shown in the above passage.
- (b) A spring is tied with a fixed support at one end and a weight is attached to the other end of the spring.
 - (i) What change in the spring of the above shown device would you observe?
 - (ii) Is the reading on the scale of the spring balance the same for different objects of the same mass?
- (c) The weight of an object on the Moon becomes one-sixth of its weight on the Earth. What causes this change? Does the mass of the object also become one-sixth of its mass on the Earth?

OR

- (c) Consider a ball dropped from a height as shown below:



Name the force responsible for the vertical motion of the ball . What will happen to the speed of the ball while falling down to the ground?

(Assume that friction force is there in air)

ANS: (a) value of one small division= $(1-0) / 5 = \frac{1}{5} = 0.2 \text{ N}$ ($\frac{1}{2} + \frac{1}{2}$)

(b) Spring will be stretched . It will be the same for different objects of the same mass . ($\frac{1}{2} + \frac{1}{2}$)

(c) Gravitational force of different planets on an object is different. ($\frac{1}{2} + \frac{1}{2}$)

Mass remains same

OR

(c) Gravitational force, it increases

($\frac{1}{2} + \frac{1}{2}$)

Q8. Long answer question (2+3)

(a) What will happen to the two identical balloons A and B as shown in Fig. when water is filled into the bottle up to a certain height. Will both the balloons bulge? If yes, will they bulge equally? Explain your answer.



(b) An elephant stands on four feet. If the area covered by one foot is 0.25 m^2 , Calculate the pressure exerted by the elephant on the ground if its weight is 20000 N .

ANS: (a) both will bulge equally as pressure exerted by water at the depth is equal-(2)

(b) Total area= number of foot x area of one foot ($\frac{1}{2}$)

$$= 4 \times 0.25 = 1 \text{ m}^2$$
 (1)

$$\text{Pressure} = F/A$$
 ($\frac{1}{2}$)

$$\text{Pressure} = 20000/1 = 20000 \text{ Pa}$$
 (1)

