NEW STANDARD ACADEMY

Marks: 80

Date : 01-07-24 **CLASS : 09TH** **Time: 3 HRS**

PHYSICS

1. A force of 10N towards the east and an unknown force F balance each other. Find the unknown force.
2. A box of mass 40 kg is kept on a floor. Sanjay is trying to push it from the left and Harish is trying to push it from the right. The forces exerted by them are 25 N and 35 N respectively. However, the box remains stationary on the floor. Find the force of friction acting on the box.
3. Define the term balanced force.
4. A force of 1.0 N acts on a body of mass 10 kg. As a result, the body covers 100 cm in 4 seconds, moving along a straight line. Find the initial velocity.
5. Define force.
6. State Newton's second law of motion.
7. A boy weighing 30kg is sitting on a chair. How much reaction acts on the boy?
8. A body of mass 3 kg is moving with a velocity of $2ms^{-1}$. Now a force is applied on the body so that its velocity changes to $3.5ms^{-1}$ in 25 s. calculate the direction and magnitude of the force acting on the body.
9. A force of 10 N produces an acceleration of $2ms^{-2}$ in a body of mass m_1 and $5ms^{-2}$ in a body of mass m_2. What will be the acceleration produced by the same force when both the bodies are tied together?
10. A machine gun has a mass of 20 kg. It fires 35 g bullets at the rate of 4 bullets per second with a speed of $400ms^{-1}$. What force must be applied to the gun to keep it in position?

CHEMISTRY

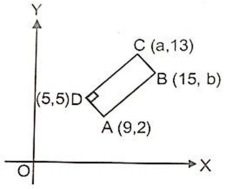
1. What are the two ways to change the physical state of a matter?
2. Why is heat energy required to melt a solid?
3. State the various factors which affect evaporation?
   i) Temperature ii) Surface area
4. Why does all the water of the earthen pot not get evaporated in summer?
5. Why does a desert cooler cool better on a hot dry day?
6. What type of clothes should we wear in summers?
7. What is the common between three states of matter?
8. Why evaporation is called a surface phenomenon?
9. What is the difference between solid, liquid and gas?
10. Write any one similarity between three states of matter.

BIOLOGY

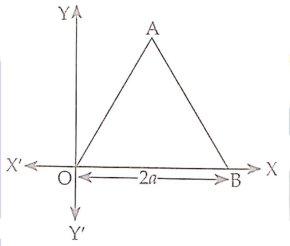
1. Define cell. Who discovered the cell?
2. Who coined the term cells?
3. Who discovered the living cell?
4. What is the full form of PPLO?
5. What is the shape of RBCs?
6. What is the shape of ovum?
7. Write down the four differences between prokaryotic and Eukaryotic cells?
8. Write down the four differences between plant and animal cells?
9. What is the shape of WBCs?
10. What is the longest plant cell?

MATHS

1. If the point (0, 2) is equidistant from the points (3, k) and (k, 5), then the value of k is:
2. In the rectangle shown, the value of a-b is:



3. If (a,b) = (0,-4), then find the values of a and b.
4. Write the ordinates of the following points:
   (3,4),(4,0), (0,4) ,(5,-3)
5. Which of the points P(0,3),Q(1,0),R(0,-1),S(-5,0), T (1,2) do not lie on x- axis?
6. Which of the following points lie on (i) x-axis? (ii) y-axis?
   A(0,2) ,B(5,6), C(23,0), D(0,23), E(0,-4), F(-6,0) ,G($\sqrt{3}$, 0)
7. The adjoining figure shows an equilateral triangle OAB with each side = 2a units. Find the coordinates of the vertices.



8. Write the coordinates of the vertices of a rectangle which is 6 units long and 4 units wide if the rectangle is in the first quadrant, its longer side lies on the x-axis and one vertex is at the origin.
9. If the coordinates of the points are P(-2,3) and Q(-3,5), then (abscissa of P)-(abscissa of Q) is
10. Find the distance between the points A(5,4) and B (1,2)