NEW STANDARD ACADEMY

Exam : MOCK- 11	NEET - JEE	Marks: 60
Date : 29-03-23	CLASS : 9TH	Time: 2 HRS

PHYSICS

1. State Newton's second law of motion.
2. Why does a ball rebound after striking against a floor?.
3. State the law of conservation of momentum.
4. A car of mass 1,000 kg moving with a velocity of 40 km h^{-1} collides with a tree and comes to stop in 5 s. What will be the force exerted by car on the tree?.
5. A bullet of mass 100 g is fired from a gun of mass 20 kg with a velocity of $100 ms^1$. Calculate the velocity of recoil of the gun.
6. A boy of mass 60 kg running at 3 m/s jumps on to a trolley of mass 140 kg moving with a velocity of 1.5 m/s in the same direction. What is their common velocity?.
7. A 5 quintal car is moving with a velocity of 54 kmh^{-1}. What is its impulse if it is stopped within 0.5s by application of backward force ? Also determine the force applied.

CHEMISTRY

1. What is the significance of boiling point and melting point of a substance?
2. What is the difference between a gas and plasma?
3. Twocubes of ice are pressed hard between two palms and after releasing the pressure, the cubes join together. Why?
4. How is pressure developed in a container full of a gas?
5. When a solid melts, its temperature remains the same, so where does the heat energy go ?
6. What is relation between pressure in atmospheres and pressure in pascals ?

BIOLOGY

1. What are the consequence of the following

   conditions.?
   a. A cell having higher water concentration then the surrounding medium.
   b. A cell having lower water concentration then the surrounding medium.
   c. A cell having equal water concentration to its surrounding medium.
   b. Name the materials of, which the cell membrane and cell wall are composed of.
2. List two similarities between mitochondria and plastids. Write down the function of Cristae in mitochondria.
3. Draw neat diagram of plant cell and label the following parts.
   a) Cell wall   b) Nucleus   c) Vacuole
   d) Mitochondria e) Lysosome   f) Chloroplast
4. On the basis of number of cells, living organisms are classified as unicellular and multicellular.
   a. "Every multicellular organisms has come from a single cell" justify this in humans.
   b. Write one common features between the amoeba and white blood cells of humans.
5. What are chloroplasts? What is their function? What other pigments are present in chloroplast?
6. Write four characteristics features of parenchyma tissue. How would you classify this tissue based upon its specialised function.?
7. Differentiate between aerenchyma and chlorenchyma.

MATHS

1. If $A(x, y)$ is equidistant from $P(-3, 2)$ and $Q(2, -3)$, then
2. The nearest point from the origin is **(a)** $(2, -3)$ **(b)** $(6, 0)$
3. The quadrilateral $P(-3, 2), Q(-5, -5), R(2, -3)$ and $S(4, 4)$ is a
4. The value of p for which the points $(-1, 3), (2, p)$ and $(5, -1)$ are collinear is
5. Find the area of a rectangle whose vertices are $A(-2, 6), B(5, 3), C(-1, -11)$ and $D(-8, -8)$
6. In the adjoining figure find
   (i) abscissa
   (ii) ordinate
   (iii) co-ordinates of point P.
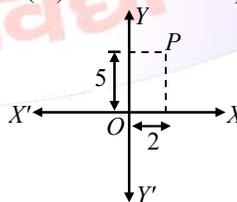
7. Draw X-axis and Y-axis and mark the poiont
   A (3, 9), B (4, – 7), C (–8, 9), D (– 3, – 5),
   E (4, – 2) and F (7, 5)

8. Draw a trignale PQR whose vertices are P = (1, – 6), Q = (7, 4) and R = (– 4, 4).

9. Find the co-ordinates of the vertices of the square ABCD (side 2a)
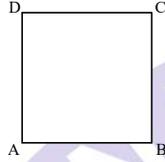
   (i) Taking AB and AD as axis,
   (ii) Taking the centre of the square as origin and axes parallel to the sides AB, AD.

10. Without plotting the given points on a graph paper indicate the quadrants in which they lie, if
    (a) ordinate = 6, abscissa = –3
    (b) ordinate = –6, abscissa = 4
    (c) abscissa = –5, ordinate = –7
    (d) ordinate = 3, abscissa = 5