

NEW STANDARD ACADEMY

Date : 13-10-25

CLASS : 9TH

Marks: 80

Time: 3 hours

PHYSICS

1. State the work–energy theorem.
2. Define kinetic energy and write its formula.
3. What type of work is done by gravity when a body moves upward?
4. A constant force acts on a body and displaces it in the direction of the force. Write the expression for work done.
5. A body of mass 5 kg is lifted vertically upward by 2 m. Calculate the work done against gravity.
6. A car of mass 1000 kg is moving at 10 m/s. How much work is required to stop it?
7. A boy does 90 J of work on a 5 kg object initially at rest. Find the final speed of the object.
8. A stone of mass 0.5 kg falls freely from a height of 20 m. Find its speed on reaching the ground.
9. An object of mass 2 kg is moving at 20 m/s. How much work is needed to increase its speed to 40 m/s?
10. Brakes apply a retarding force of 2500 N on a 1000 kg car moving at 20 m/s. Find the distance over which the car comes to rest.

CHEMISTRY

1. What weight of silver nitrate will react with 0.585 g NaCl to produce 1.435 g AgCl and 0.85 g NaNO₃?
2. 4 gram of sodium carbonate are made to react with 10 g of hydrochloric acid. 2.5 g of carbon dioxide and 11.5 g of sodium chloride is formed. Show that these data confirm the law of conservation of mass.
3. Hydrogen and oxygen combine in the ratio of 1: 8 by mass to form water. What mass of oxygen gas would be required to react completely with 3 g of hydrogen gas?
4. In an experiment,
(a) 1.75 g of copper gives 2.19 g copper oxide
(b) 1.135 g of copper gives 1.430 g copper oxide. Show that these data confirm the law of definite proportions

5. Which postulate of Dalton's atomic theory is the result of the law of conservation of mass?
6. Which postulate of Dalton's atomic theory can explain the law of definite proportions?
7. Calcium carbonate (CaCO₃) decomposes to give CaO and CO₂. If 100 grams of CaCO₃ are allowed to decompose, 44 grams of CO₂ is formed. If law of conservation of mass is true, then calculate the mass of CaO formed.
8. 1.8 g of water decomposes to give O₂ gram H₂. What will be the mass of O₂ obtained?
9. Define an atom.
10. Define atomic mass. What does it describe that atomic mass of sodium is 23 u?

BIOLOGY

1. What is cuboidal epithelium give function with example
2. What is the pavement epithelium give the example
3. Enzymes are secreted by which tissue give the name and structure
4. Define connective tissue with example
5. What is the difference between ligament and tendon
6. Blood is a which type of tissue explain
7. Give the characteristic feature of RBCs
8. What are WBCs classified It
9. Give the difference between bone and cartilage
10. What is a composition of blood
Give the function of hemoglobin

MATHS

1. The side of a triangular plot are in the ratio 3:5:7 and its perimeter is 300 m. Find its area.
2. If the side of a rhombus is 10 cm and one diagonal is 12 cm, then find the area of the rhombus.

3. If one side of a parallelogram is 8 cm and its corresponding altitude is 6cm , then find its area
4. The sides of a triangle (in cm) are $x, x+1, 2x-1$ and its area (in cm^2) is $x\sqrt{10}$. Find the value of x and the lengths of the sides of the triangle.
5. Sides of a triangle are in the ratio 12:17:25 and its perimeter is 540 cm. Find its longest altitude.
6. The sides of a triangular field are 51 m, 37 m and 20 m. Find the number of rose beds that can be prepared in the field if each rose bed occupies an area of 6 sq. m.
7. Find the cost of laying grass in a triangular field of sides 50 m, 65 m and 65 m at the rate of 7 per m^2 .
8. If the perimeter of an equilateral triangle is 60 m, then the area is
9. If the area of equilateral triangle is $16\sqrt{3} \text{ cm}^2$, then the perimeter of the triangle is
10. Two adjacent sides of a parallelogram are 9 cm and 8 cm. If one of its diagonal is 13 cm, then its area is

