

NEW STANDARD ACADEMY

Marks: 80

Date : 24-11-25

CLASS : 9TH

Time: 3 hours

PHYSICS

1. A toy car is pulled by a force of 5 N at an angle of 60° horizontally. If the distance covered is 2 m, find the work done.
2. A truck and a car are running at the same speed. If the mass of the truck is 10 times that of the car, calculate the ratio of the kinetic energy of the truck to that of the car.
3. If 58,800 J of energy is consumed for lifting an object through a vertical height of 75 m, calculate the mass of the object (take $g = 9.8 \text{ m/s}^2$).
4. A boy weighing 50 kg runs up a flight of 120 stairs, each measuring 25 cm in height, in 1 minute and 40 seconds. Calculate the boy's power ($g = 10 \text{ m/s}^2$).
5. Through how much height will you be able to lift a book of mass 0.5 kg when the energy spent by you is 1 J? ($g = 10 \text{ m/s}^2$)
6. A body of mass 10 kg falls from a height of 50 cm. Find the kinetic energy of the body when it just reaches the ground level (take $g = 10 \text{ m/s}^2$).
7. A crane raises a load of 4 tonnes through a vertical height of 10 m in 50 s. Calculate the power of the crane in kilowatts ($g = 9.8 \text{ m/s}^2$).
8. A bullet of mass 50 g and moving with a velocity of 500 m/s strikes a tree and goes out from the other side with a velocity of 400 m/s. Calculate the work done by the bullet in joules in passing through the tree.
9. A light body and a heavy body both have the same kinetic energy. Which of the two will have greater momentum?
10. When the mass of a body is increased by 100% and the velocity is decreased by 50%, what is the percentage change in its kinetic energy?
2. An element X shows variable valency of 4 and 6. Write the chemical formula of its two oxides.
3. Hydrogen and oxygen combine in the ratio 1: 8 by mass to form water. What mass of oxygen gas would be required to react completely with 5 grams of hydrogen gas?
4. Write the important postulates of Dalton's atomic theory. What are its limitations?
5. Atoms of most of the elements do not exist independently. Then how do you show their presence?
6. What is the valency of copper in CuSO_4 and Cu_2O ?
7. Chemical name of HCl is hydrogen chloride and not hydrogen monochloride, why?
8. Define 'atomic mass unit' How is it linked with relative atomic mass?
9. Write the two examples in each case and write their chemical formulae.
(a) Molecules having one kind atoms only.
(b) Molecules having two different kinds of atoms.
10. The atomic mass of Cl is 35.5 u. How many times is the atom of chlorine heavier than the carbon atom?

BIOLOGY

1. How are simple tissue different from complex tissue in plants?
2. Draw and label the diagram of areolar connective tissue.
3. Give the two function of mast cell
4. What is a cardiac muscles give its function
5. What is a haversian system give its importance
6. Give the characteristic feature of meristematic tissue
7. What is a vascular bundle name the tissue forming vascular bundles
8. Give name of tissue secrete hormone also draw the diagram

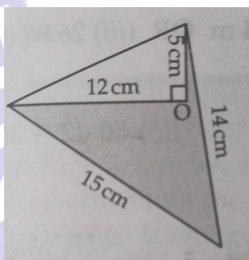
CHEMISTRY

1. What is the difference between chlorine atom and chloride ion?

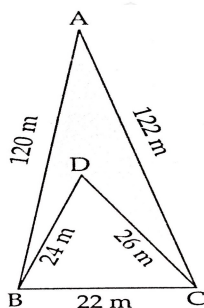
9. Give the four difference between voluntary and involuntary muscles
10. Draw the label diagram of different type of (WBCs)

MATH'S

1. Two chords AB and CD of lengths 5 cm and 11 cm respectively of a circle are parallel to each other and are on the opposite sides of its centre. If the distance between AB and CD is 6 cm, find the radius of the circle.
2. Two circles of radii 5 cm and 3 cm intersect at two points and the distance between their centres is 4 cm. Find the length of the common chord.
3. A circular park of radius 20 m is situated in a colony. Three boys Ankur, Syed and David are sitting at equal distances on its boundary each having a toy telephone in his hands to talk to each other. Find the length of the string of each phone
4. The perimeter of a triangular field is 420 m and its sides are in the ratio 6:7:8. Find the area of the triangular field.
5. Find the area of the shaded region in figure given below.



6. Find the area of the shaded region in figure given below.



7. The volume of a right circular cone is 9856 cm^3 . If the diameter of the base is 28 cm, find
 - (i) height of the cone
 - (ii) slant height of the cone
 - (iii) curved surface area of the cone.

8. A semi-circular sheet of metal of diameter 28 cm is bent to form an open conical cup. Find the capacity of the cup.
9. The radius of a sphere is increased by 10%. Prove that the volume will be increased by 33.1%.
10. A solid sphere of radius 15 cm is melted and recast into solid right circular cones of radius 2.5 cm and height 8 cm. Find the number of cones recast.