

NEW STANDARD ACADEMY

Date : 27-05-24

CLASS : 10TH

Marks: 80
Time: 3 HRS

PHYSICS

1. A student has difficulty in reading the black board while sitting in the last row. What could be the defect the child is suffering from? How can it be corrected?
2. What is Tyndall Effect?
3. An object of height 6cm is placed perpendicular to principal axis of a concave lens of focal length 5 cm. Use lens formula to determine the position, size of nature of the image if the distance of the object from the lens is 10 cm.
4. If the image formed by the mirror for all positions of the object placed in front of it is always erect and diminished, what type of mirror is it? Draw a ray diagram to justify your answer. Where and why do we generally use this type of mirror?
5. Why do we have two eyes instead of one eye?
6. What are the factors on which deviation produced by a prism depend?
7. What is Myopia or near-sightedness?
8. What is a presbyopia (a defect of vision)?
9. A 4.0 cm high object is placed at a distance of 60 cm from a concave lens of focal length 20cm. Find the size of the image.
10. A convex lens of focal length 20 cm is placed in contact with a concave lens of focal length 12.5 cm in such a way that they have the same principal axis. Find the power of combination.

CHEMISTRY

1. What are organic and mineral acids?
2. When dilute sulphuric acid is added to a solid X, a gas Y is formed along with the formation of the salt of the solid. What could be X and Y?

3. Write the names and symbols of the ions present in the aqueous solutions of HNO_3 , H_2SO_4 and CH_3COOH
4. What are indicators? Explain type of indicators.
5. Define alkalis with examples.
6. Write the name and symbols of the ions present in the aqueous solutions of HCl , CH_3COOH , KOH and $\text{Mg}(\text{OH})_2$
7. Define the term electrolytic decomposition with two examples.
8. What is meant by a skeletal equation?
9. The gases hydrogen and chlorine do not react with each other even if kept together for a long time. However, in the presence of sunlight, they readily combine. What does actually happen?
10. Which gas is liberated when an acid reacts with a metal? How will you test this gas?

BIOLOGY

1. Explain Double circulation
2. Explain Cardiac Cycle
3. What is stroke volume
4. Explain the mechanism of heart.
5. Name two plasma proteins.
6. What is cardiac output.
7. Draw the neat & clean diagram of human heart & label it
8. Write down the pathway of Ascent of sap.
9. Define the term apoplast and symplast.
10. Write significance of transpiration.

MATHS

1. If the roots of the equation $3x^2 + 9x + 2 = 0$ are in the ratio $m:n$ then find $\sqrt{\frac{m}{n}} + \sqrt{\frac{n}{m}}$
2. For what value of k , if one root of the quadratic equation

- $9x^2 - 18x + k = 0$ is double of the other?
3. A shopkeeper buys some books for ₹ 80 .If he had bought 4 more books for the same amount each book would have cost ₹1 less.Find the number of books he bought.
 4. A motor boat whose speed is 18 km/h in still water takes 1 hour more to go 24 km upstream than to the same spot . Find the speed of the stream.
 5. If the list price of a toy is reduced by ₹2,a person can buy 2 toys more for ₹360. Find the original price of the toy.
 6. The sum of the squares of two natural numbers is 116. If the square of the larger is 25 times the smaller, find the numbers.
 7. Number of real solution of $(X^2 - 7x + 11)^{x^2 - 11x + 30} = 1$ is
 8. If the roots of the equation $3ax^2 + 2bx + c = 0$ are in the ratio 2:3 then ____
 9. A group of girls planned a picnic. The budget for food was rs. 2400. Due to illness, 10 girls could not go to picnic and cost of food for each girl increased by RS. 8 . How many girls had planned the picnic?
 10. Forty years hence Mr. pratap's age will be the square of what it was 32 years ago. Find his present age.