

NEW STANDARD ACADEMY

Marks: 80

Date : 19-05-25

CLASS : 10TH

Time: 3 hours.

PHYSICS

1. The focal length of concave lens is 25 cm. Then its power will be?
2. A convex lens of glass has power P in air . If it is immersed in water, its power will be?
3. A convex lens has focal length 30cm . If an object is placed at a distance of 15 cm from it then the magnification produced by the lens is?
4. An object pin is placed at a distance 10 cm from first focus of a thin convex lens on its principal axis the lens forms a real and inverted image of this object pin at a distance 40 cm beyond the second focus . The focal length of the lens is?
5. Find the power of a concave lens of focal length 2 m?
6. Nature and focal length of a lens of power+2D will be?
7. The image of an object formed by a convex lens is 3 times of object on screen . If the position of object and screen are interchanged , then what will be its magnification in this condition?
8. A concave lens has focal length 30 cm .If image is formed at a distance 10cm from the lens , find the position of object. Calculate the magnification produced by the lens also?

Read the passage and answer the 9&10 question:

The lenses form different types of images when object placed at different locations. When a ray is incident parallel to the principal axis, then after refraction, it passes through the focus or appears to come from the focus.

When a ray goes through the optical centre of the lens, it passes without any deviation. If the object is placed between focus and optical center of the convex lens, erect and magnified image is formed.

As the object is brought closer to the convex lens from infinity to focus, the image moves away from the convex lens from focus to infinity. Also, the size of image goes on increasing and the image is always real and inverted.

A concave lens always gives a virtual, erect and diminished image irrespective to the position of the object.

9. The location of image formed by a convex lens when the object is placed at infinity is
10. When the object is placed at the focus of concave lens the image formed is

CHEMISTRY

1. What do you mean by Indicator's
2. What are the acids .write any four characteristics of acids
3. What are the bases .write any four characteristics of Bases.
4. What are the colours indicator's ? give example with their colour change (two – Natural a two –synthetic)
5. Give two –two examples of Inorganic and organic acids
6. Define the following term's
(i) acidity (ii) Basicity
7. Give 1-1 examples of each monobasic and dibasic acids , monoacidic & diacidic Bases
8. Write the chemical – formula of the following
(i) Formic acid (ii) Butyric acid
(iii) Lactic acid (iv) Tartaric acid
9. Write the preventive methods of corrosion
10. Explain the following terms
(i) Anti –oxidants (ii) Preservatives

BIOLOGY

1. Name the two major circulatory systems in our body Explain it.
2. What makes RBC's appear red in colour? explain
3. Which chamber of heart has the thickest wall?
4. Name the artery that carry deoxygenated blood and the vein that carry oxygenated blood.
5. Write two advantages of a closed circulatory system.
6. Write the differences between blood and lymph.
7. Give an account of different types of blood vessels.
8. Why is circulation in man known as double circulation?
9. Write the constituents of blood. Why are white blood corpuscles called 'Soldiers of the body'?

10. Draw a well labelled diagram of the vertical section of human heart representing the internal structure.

MATH

1. Write first four terms of the AP when the first term a and the common difference d are given as follows
(i) $a = -1, d = \frac{1}{2}$ (ii) $a = \sqrt{2}, d = \frac{1}{\sqrt{2}}$
2. Find the common difference of each of the following AP:
(i) $\frac{1}{2b}, \frac{1-6b}{2b}, \frac{1-12b}{2b}$
(ii) $\frac{1}{b}, \frac{3-b}{3b}, \frac{3-2b}{3b}$
3. Write first four terms of the AP, when the first term a and the common difference d are given as follows
(i) $a = 10, d = 7$ (ii) $a = -3, d = 0$
4. Determine the AP whose 3rd term is 5 and the 7th term is 9.
5. Find the AP whose n th term is $7-3n$. Also find the 20th term.
6. Which term of the AP: 12, 117, 113, ... is the first negative term?
7. If p th, q th and r th term of an AP are a, b and c respectively, then show that
$$a(q-r) + b(r-p) + c(p-q) = 0$$
8. The sum of the four consecutive numbers in an AP is 32 and the ratio of the product of the first and last terms to the product of two middle terms is 7:15. Find the numbers.
9. The digit of a positive number of three digit are in AP and their sum is 15. The number obtained by reversing the digits is 594 less than the original number. Find the number.
10. If the n th terms of the two Aps: 9, 7, 5, ... and 24, 21, 18, ... are the same find the value of n . Also find that term.