

NEW STANDARD ACADEMY

Date : 13-05-24

CLASS : 10TH

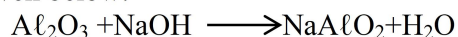
Marks: 80
Time: 3 HRS

PHYSICS

1. Why do we observe the seven colours when white light passes through a glass prism ? Which component of white light deviates the least?
2. Light of two colours A and B Pass through a glass prism. 'A' deviates more than B from its path of incidence. Which colour has a higher speed in the prism?
3. A ray of light passes symmetrically through a glass prism ($\mu = 1.5$) of angle 60° . Calculate angle of incidence.
4. Show that the colours of white light splitted by a glass prism can be recombined to get white light by another glass prism (Recombination of the spectrum of white light)
5. The distance between the eye lens and retina is fixed . Then, how is the eye lens said to have adjustable focal length.
6. A person needs a lens of power-5.5 diopters for correcting distant vision. For correcting his near vision, he needs a lens of power +1.5 diopter. What is the focal length of the lens required for correcting (i) distant vision and (ii) near vision?
7. Why is normal eye not able to see clearly the objects placed closer than 25 cm?
8. What meant by power of accommodation of the eye?
9. What is the far point and near point of the human eye with normal vision?
10. What is the work of Retina? How it form image?

CHEMISTRY

11. What is meant by balanced chemical equation? Why chemical equations are balanced? Balance the chemical equation given below:



12. Give three examples to indicate the role of Decomposition reactions in metal industries.
13. The gases hydrogen and chlorine do not react with each other even if kept together for a long time . However, in the presence of sun light, then readily combine. What does actually happen?
14. With the help of an experiment show that in the electrolysis of acidulated water the volume of one gas is twice the volume of the other gas name the gas.
15. Why should magnesium ribbon be cleaned before burning in air?
16. Why does the colour of copper sulphate change when an iron nail is dipped in it?
17. Why do diamond and graphite, the two allotropic forms of carbon evolve different amounts of heat on combustion?
18. You might have noted that when copper powder is heated in a china dish, the surface of copper powder gets coated with black coloured substance
 - i) Why is this black coloured substance formed?
 - ii) What is this black substance?
19. What is double displacement reaction and give two examples?
20. What is the difference between decomposition reaction and combination reaction.

BIOLOGY

21. Define Respiratory Quotient(R.Q)
22. Where is enzyme carbonic anhydrase located? What is its function?
23. What do you mean by ascent of sap?
24. What is Transpiration pull?
25. Write the absorption of water.
26. Explain translocation of food.
27. Name the cell of phloem tissue

28. Describe bidirectional and unidirectional movement.
29. What is the rate of Ascent of sap?
30. Draw the neat and clean diagram of Lungs and Labelled it.

MATHS

31. Find the root of the quadratic equations by Factorization
 I $\sqrt{2}x^2+7x+5\sqrt{2}=0$
 II $100x^2-20x+1=0$
32. The altitude of a right triangle is 7 cm less than its base. If the hypotenuse is 13 cm, find the the other two sides
33. Is the following situation possible? If so determine their present ages. Of two friends is 20 yeads. Four years ago, the product of their ages in years was 48.
34. Find the root of the following quadratic equations, if they exist, by the method of completing the square:
 i) $4x^2+4\sqrt{3}x+3=0$
 ii) $2x^2+x+4=0$
35. The sum of the reciprocal of rehman's ages,(in years) 3 years ago and 5 years from now is $\frac{1}{3}$. Find his present age.
36. Is it possible to design a rectangular park of perimeter 80 m and area $400m^2$? If so ,find its length and breadth.
37. If one root of $x^2-4x+k=0$ is 6 then the value of k is:
38. If p and q are the zeroes of the quadratic polynomial bx^2+cx+a , then the value of $\frac{1}{p^3} + \frac{1}{q^3}$ is :
39. If the roots of the equation $x^2-4x+1=0$ are in the ratio p:q then the value of $\sqrt{\frac{p}{q}} + \sqrt{\frac{q}{p}}$ is:
40. Find the value of K of the following system of equations having in finitely many solutions
 $2x-3y=7$
 $(k+2)x-(2k+1)y=3(2k-1)$.