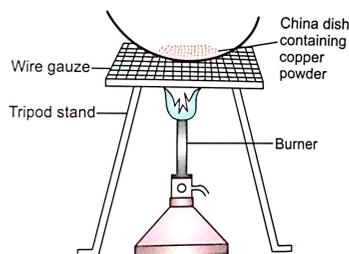


# NEW STANDARD ACADEMY

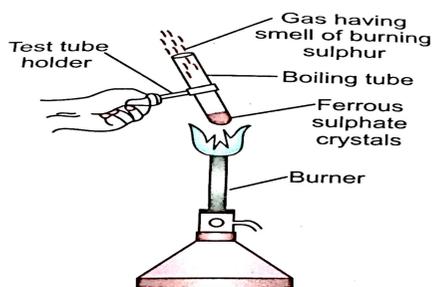
SEMRI KOTHI SUPER MARKET, RAEBARELI

CLASS 10 (CHEMISTRY) DPP (Academy) 15/07/2024

1. Give an example of decomposition reaction. Describe an activity to illustrate such a reaction by heating.
2. Look at the fig and answer the following
  - i) What type of change in colour occurs?
  - ii) How can we convert CuO back to Cu?
  - iii) Write chemical equations for the reactions.



3. Define the term electrolyse decomposition with two examples.
4. Look at the Fig and answer the following question?
  - i) What is the colour of ferrous sulphate crystals?
  - ii) What is the colour of solid left in the test-tube?
  - iii) What is the colour and odour of the gas evolved?
  - iv) Write the balanced chemical equation for the reaction?



5. Name a reducing agent that can be to obtain manganese from manganese dioxide. Write balanced chemical equation for the reaction?
6. Give an example of exothermic reaction.

7. Give an example of exothermic reaction.
8. What is meant by a skeletal equation?
9. Name the gas that can be used for the storage of fresh sample of potato chips for a long time.
10. Give the example of a double displacement reaction (only reaction with complete and equation).
11. Name two salts that are used in black and white photography.
12. Which chemical process is used for obtaining a metal from its oxide?
13. State the chemical change that takes place when limestone is heated.
14. A white salt upon heating decomposes to give brown fumes and a residue is left behind.

- i) Name the salt
- ii) Write the equation for the decomposition reaction.

15. There is loss of lives and materials due to rusting and corrosion. But sometimes corrosion is a boon also e.g., a protective layer of oxide ( $Al_2O_3$ ) is formed on the surface of aluminium due to corrosion. Now this oxide layer protects aluminium from further corrosion.
16. What is the right choice for the following statements by choosing correct type of reaction for x and y.

**Statement 1:** Heating of ammonium nitrite is an example of 'x' reaction.

**Statement 2:** Heating of lead oxide with coke is an example of 'x' reaction.

(a)	$x$ Decomposition	$y$ Combination	(b)	$x$ Combination	$y$ Oxidation
(c)	$x$ Decomposition	$y$ Displacement	(d)	$x$ Decomposition	$y$ Redox

17. What is the right choice for the following statement by choosing correct options for x and y. "During the process of respiration, glucose combines with oxygen in the cells of our body and 'x' a large amount of energy. Hence, respiration is a 'y' reaction.

(a)	$x$ releases	$y$ endothermic	(b)	$x$ absorbs	$y$ exothermic
(c)	$x$ releases	$y$ exothermic	(d)	$x$ absorbs	$y$ endothermic

18. Taj Mahal at Agra is slowly getting corroded. Do you know the reason?
19. Why do we store silver chloride in dark coloured bottles?
20. Why do fire flies (Jugnu) glow at night?

# NEW STANDARD ACADEMY

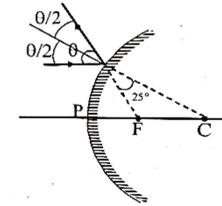
SEMRI KOTHI SUPER MARKET, RAEBARELI

CLASS 10 (PHYSICS) DPP (Academy) 15/07/2024

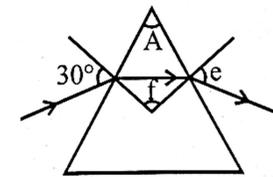
1. An object 5 cm in length is held 25 cm away from a converging lens of focal length 10 cm. Draw the diagram and find the position size and the nature of the image formed.
2. A concave lens of focal length 15 cm forms an image 10 cm from the lens. How far is the object placed from the lens? Draw the ray diagram.
3. An object is placed at a distance of 10 cm from a convex mirror of focal length 15 cm. Find the position and nature of the image.
4. The magnification produced by a plane mirror is +1. What does this mean?
5. An object 5.0 cm in length is placed at a distance of 20 cm in front of a convex mirror of radius of curvature 30 cm. Find the position of the image, its nature and size.
6. Light enters from air to glass having refractive index 1.50. What is the speed of light in the glass? The speed of light in vacuum is  $3 \times 10^8 \text{ ms}^{-1}$ .
7. You are given kerosene, turpentine and water. In which of these does the light travel fastest?
8. The angle between an incident ray and mirror is  $\theta$ . The total angle turned by the ray of light is  $80^\circ$ . What is the value of  $\theta$ ?
9. Distinguish between real and virtual image.
10. Define Snell's law of Refraction.
11. A convex lens of focal length 40 cm is in contact with a concave lens of focal length 25 cm. Find the power of the combination.
12. An object of length 1 cm is placed at a distance of 15 cm from a concave mirror of focal length 10 cm. Find the nature and size of the image.
13. What is the value of  $\theta$  in the following ray diagram?
14. Make a diagram to show how hypermetropia is corrected. The near point of a hypermetropic eye is 1 m. What is the power of the lens

required to correct this defect? Assume that the near point of the normal eye is 25 cm.

15. Why is a normal eye not able to see clearly the objects placed closer than 25 cm?



16. Why do stars twinkle?
17. Why does the sun appear red early in the morning?
18. What is meant by power of accommodation of the eye?
19. What happens to the power of the eye lens in case of myopia and hypermetropia?
20. What are rods shaped and cone shaped cells. How do they help us in seeing color?
21. A person cannot see objects clearly beyond 50 cm. Find the power of the lens to correct the vision.
22. A myopic person having far point 80 cm uses spectacles of power -1.0 D. How far can he see clearly?
23. In an equilateral prism,  $i = 30^\circ$  and deviation is  $37^\circ$ , What are the angles marked as A, e and f?



24. Draw a diagram showing refraction of a ray of light through a glass prism and mark the angle of deviation.
25. Why do different colours get separated when white light passes through a prism? How can we recombine the components of white light after a prism has separated them? Explain with the help of figure
26. Why does sky look blue on a clear day?

27. What is hypermetropia or far sightedness? State the two cause of hypermetropia, show:  
(i) the eye-defect hypermetropia by using a lens.  
(ii) correction of hypermetropia by using a lens
28. Which type of eye defect is myopia? Describe with a neat diagram how this defect of vision can be corrected by using a suitable lens.
29. Draw a ray diagram to show the refraction of light through a glass prism. Mark on it  
(a) the incident ray, (b) the emergent ray and (c) the angle of deviation

# NEW STANDARD ACADEMY

SEMRI KOTHI SUPER MARKET, RAEBARELI

CLASS 10 (BIOLOGY) DPP (Academy) 15/07/2024

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1. Why is the use of iodised salt advisable?
2. How does our body respond when adrenaline is secreted into the blood?
3. Why are some patients of diabetes treated by giving injections of insulin?
4. How does chemical coordination take place in animals?
5. What are the changes seen in girls at the time of puberty?
6. Name the master gland of the body
7. Name the hormone which stimulates growth of milk glands and milk secretion.
8. Name the largest endocrine gland
9. Name the hormones produced by Pancreas
10. Name the disease, which is caused due to deficiency of insulin
11. Which hormone responsible for the development of moustache and beard in men?
12. Why is abscisic acid known as stress hormone?
13. Explain the feedback control mechanism of hormones
14. Name the box in which brain situated. When the weight of fully grown human brain?
15. What is the endocrine control in the 'fight and flight' response? Explain.
16. A boy was not able to gain height. The doctor diagnosed that it is due to deficiency of a hormone. Name the hormone and the gland which secretes this hormone. Which disease is he suffering from?
17. Name the hormone secreted by human testes. State its functions.
18. Expand the following
  - a) ABA
  - b) ADH
  - c) TSH
  - d) GH
19. Mention the part of the brain which controls the involuntary actions like blood pressure, salivation etc.
20. Give the role played by cerebellum and medulla oblongata in human brain.

# EW STANDARD ACADEMY

SEMRI KOTHI SUPER MARKET, RAEBARELI

CLASS 10 (MATH'S) DPP (Academy) 15/07/2024

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1. The traffic lights at three different road crossings change after every 48 seconds, 72 seconds and 108 seconds. If they change simultaneously at 7 a.m., at what time will they change together next?
2. Prove that  $4^n$  can never end with the digit 0, where n is a natural number.
3. where p is prime.
4. Prove that  $\sqrt[3]{6}$  is an irrational number.
5. If  $x + 2$  is a factor of the polynomial  $5x^3 + (k + 2)x^2 - 3kx + 2$ , then find the value of k
6. If  $(x + \alpha)$  is a factor of two polynomials  $x^2 + px + q$  and  $x^2 + mx + n$ , then prove that  $= \frac{n - q}{m - p}$ .
7. Find the zeroes of the polynomial  $f(x) = x^2 + 6x - 11$ . Also verify the relationship between the zeroes and coefficients of  $f(x)$
8. If  $\frac{2}{3}$  and  $-3$  are zeroes of the polynomial  $ax^2 + 7x + b$ , then find the values of a and b.
9. For all real values of c, the pair of equations  $x - 2y = 8$  and  $5x - 10y = c$  have a unique solution. Justify whether it is true or false.
10. For the pair of equations  $x\lambda + 3y = -7$  and  $2x + 6y = 14$  to have infinitely many solutions, the value of  $\lambda$  should be 1. Is this statement true? Give reasons.
11. Solve  $2x + 3y = 11$  and  $2x - 4y = -24$ . Hence, find the value of 'm' for which  $y = mx + 7$ .
12. The age of the father is three times the sum of ages of his two children. After 5 years, his age will be two times the sum of the ages of his children Find the present age of the father.
13. If  $\frac{2}{3}$  is a root of the equation  $kx^2 - x - 2 = 0$  then find the value of k.
14. Use the substitution  $y = 2x - 1$  to solve for x:  
 $3(2x - 1)^2 + 4(2x - 1) - 4 = 0$ .
15. Solve for x :  $\sqrt{6x + 7} - (2x - 7) = 0$
16. Check whether the equation  $6x^2 - 7x + 2 = 0$  has real roots and if it has, find them .

17. Divya deposited 1000 at compound interest at the rate of 10% per annum. The amounts at the end of first year, second year, third year,... form an AP. Justify your answer.
18. Find the 10<sup>th</sup> term of the AP: 2, 7, 12, ...
19. For what value of n, are the nth terms of two Aps:
20. Find the :  $7 + 10\frac{1}{2} + 14 + \dots + 84$ .