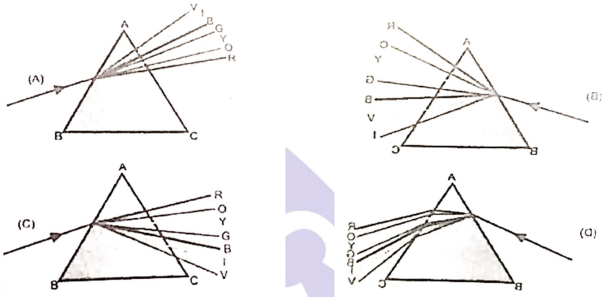
NEW STANDARD ACADEMY

Marks: 80

Date : 21-05-24 **CLASS : 10TH** **Time: 90 min.**

PHYSICS

1. Eye defect at old age is called:
   a) Myopia b) Hypermetropia
   c) Presbyopia d) astigmatism
2. When astronauts fly at higher altitude, the sky appears dark because:
   a) Scattering of light does not place
   b) Scattering of light takes place
   c) Refraction of light takes place
   d) Dispersion of light takes place.
3. When a ray of light passes through a glass prism, it suffers
   a) One refraction
   b) Two refraction
   c) Three refraction
   d)) Two reflection
4. A person suffering from far – sightedness wears a spectacles having a convex lens of focal length 50 cm. What is the distance of the near point of his eye?
   a) 25 cm b) 30cm
   c) 45 cm d) 50 cm
5. In a prism
   a) Rays deviate toward the base of the prism.
   b) Rays deviate away from base of the prism
   c) Rays are reflected internally toward the vertex of the prism.
   d) Rays are diffracted around the prism.
6. Which colour suffers the least deviation when it passed through a prism?
   a) Yellow b) Red
   c) Violet c) Green
7. Four students draw aray diagram showing the dispersion through a glass prism.When a narrow beam of white light incident on the glass prism as shown in figure A,B,C and D. Which of following is correct ray diagram?



a) A b) B c) C d) D

8. Rainbow is formed due to
   a) Reflection and dispersion of light through a water droplet
   b) Refraction, reflection and dispersion of light through a water droplet
   c) Only dispersion of light
   d) Only refraction of light
9. An object is placed at distance of 15 cm from a convex mirror of focal length 30 cm .Then position of image is-
   a) 10 cm b) 15 cm
   c) 20cm c) 30cm
10. An object placed at a distance of 27cm in front of convex lens of focal length 18cm .Then the position of image is
    a) 40 cm b) 54 cm
    c) 80 cm d) 12 cm

CHEMISTRY

11. Displacement reaction is:
    a) $CaO(s)+H_2O(l) \longrightarrow Ca(OH)_2(aq)$
    b) $Pb(s)+CuCl_2 \longrightarrow PbCl_2(aq)+Cu(s)$
    c) $MnO_2(s)+4HCl(l) \longrightarrow MnCl_2(s)+2H_2O+Cl_2(g)$
    d) $C_6H_{12}O_6+6O_2 \longrightarrow 6CO_2+6H_2O$
12. The Chemical reaction HNO3+KOH $\longrightarrow$ KNO3+H2O is an example of:
    a) Neutralization

b) Double Displacement
c) Neutralization and double displacement
d) Combination reaction

13. Magnesium ribbon is rubbed with sand paper befour making it to burn. The reason of rubbing the ribbon is to:
a) Remove moisture condensed over the suface of ribbon
b) Generate heat due to exothermic reaction
c) Remove magnesium oxide formed over the surface of magnesium
d) Mix silicon from sand paper (Silcon dioxide) with magnesium for lowering ignition temperature of the ribbon

14. The reaction that differs from the rest of the reactions given is:

a) Formation of calcium oxide from limestone
b) Formation of aluminium from aluminium oxide. Carbonate
c) Formation of sodium carbonate from sodium hydrogen carbonate
d) Formation of mercury from mercuric oxide.

15. When lead nitrate is heated a brown gas is evolved gas is____
a) Di oxygen b) Nitrogen Dioxide
c) Nitrous oxide d) Dinitrogen.

The question given below consist of Assertion and Reason. Use the following key to select the correct answer:

a) If both assertion and reason are correct and reason is correct explanation for assertion.
b) If both assertion and reason are correct but reason is not correct explanation for assertion.
c) IF assertion is correct but reason is incorrect.
d) If assertion is incorrect but reason is correct.

16. **Assertion**: In a Chemical reaction, the total mass of the products remains as the total mass of the reactants.
Reason : A chemical reaction involves simply exchange of partners and no new species are formed

17. Assertion: Copper can displaced silver from aqueous silver nitrate solution.
Reason: Silver is placed above copper in the reactivity series.

18. Assertion: A piece of sodium metal catches fire when throw in water.
Reason: Sodium is a very reactive metal.

19. Assertion Chemical combination always takes place between two elements.
Reason : A single substance is formed in a combination reaction.

20. Assertion : Quick lime reacts with water to form slaked lime.
Reason: It is a slow chemical reaction.

BIOLOGY

21. Carbonic Anhydrase is present in
a) WBCs b) RBCs
c) Platelets d) All of these

22. Which cells have devoid of nucleus
a) RBCs b) WBCs
c) Platelets d) None of these

23. Which is known as blood bank –
a) Liver b) Kidney
c) Spleen d) Stomach

24. Which is graveyard of RBCs-
a) Spleen b) Thymus
c) Bone marrow d) All of these

25. The number of RBCs present in human male
a) 40-50 lac/mm^3
b) 50-55 lac/mm^3
c) 45 -50 lac/mm^3
d) 30-40 lac/mm^3

26. What is the life span of RBCs-
a) 120 days b) 60 days
c) 20 days d) 30 days

27. The cells involved in inflammatory reactions are
a) Basophils b) Neutrophils
c) Eosinophils d) Lymphocytes.

28. What is the life span of W.B.Cs-

a) 3-4 days b) 20 days
c) 30 days d) 40 days

29. Heart is incompletely 4 chambered in:
a) Fishes b) Amphibians
c) Reptiles d) Birds

30. Valves are not found in:
a) Veins b) Arteries
c) Heart d) All of these

MATHS

31. If the sum of the two roots of the equation $\frac{1}{x+a}+\frac{1}{x+b}=\frac{1}{c}$ is zero, then the product of two roots is ____
a) 0 b) $\frac{a^2+b^2}{2}$
c) $\frac{a+b}{2}$ d) $-\frac{(a^2+b^2)}{2}$

32. If 2 is a root of the equation $x^2+bx+12=0$ and the equation $x^2+bx+q=0$ has equal roots, then q =
a) 8 b) -8
c) 16 d) -16

33. If roots of the equation $(a^2+b^2)x^2-2(ac+bd)x+(c^2+d^2)=0$ *are equal then* $bc-ad=$ ___
a) 1 b) 0
c) -1 d) 2

34. Number of real solution of $(X^2-7x+11)^{x^2-11x+30}=1$ is
a) 4 b) 5
c) 6 d) No solution

35. If ½ is a root of the equation $x^2+kx-\frac{5}{4}=0$ then the value of k is a
a) 2 b) -2
c) $\frac{1}{4}$ d) $\frac{1}{2}$

36. If α *and* β are roots of the eq^n $2x^2-5x+3=0$ then the value of $\frac{1}{\alpha}+\frac{1}{\beta}$ is
a) 5/3 b) 3/5
c) -5/3 d) -3/5

37. If the equation $2x^2-5x+(k+3)=0$ has equal roots then the value of k is
a) 9/8 b) -9/8
c) 1/8 d) -1/8

38. If the system of equation $2x+3y=7$ and $2ax+(a+b)y=28$ represents coincidents lines, which of the condition holds true?
a) b=2a b) a=2b
c) 2a+b=0 c) a+2b=0

39. Two lines with slopes m_1 and m_2 are parallel to each other if:
a) $m_1=m_2$ b) $m_1m_2=1$
c) $\frac{m_1}{m_2}=1$ d) $m_1+m_2=1$

40. Find the slope of a line whose inclination with x-axis is 150°
a) $\frac{1}{2}$ b) $\sqrt{3}$
c) $\frac{-1}{\sqrt{3}}$ **d)** None of these