



**Octahedral classes, kharadi**  
**2nd floor, yashwant plaza, near bank of India,**

**Class 10 - Science**

**Science prelim2**

**Maximum Marks: 60**

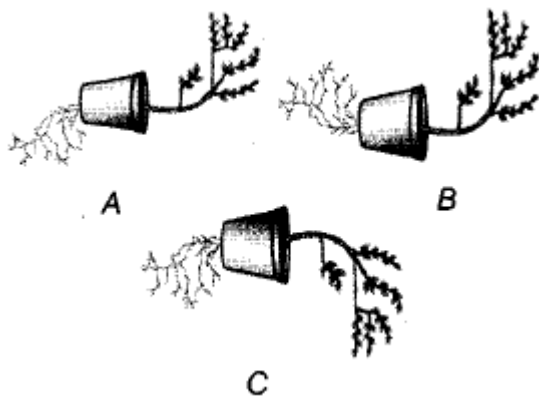
**Time Allowed: 2 hours**

**Section A**

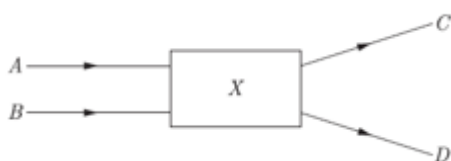
1. Although metals form basic oxides, name one metal which forms an amphoteric oxide. 1
2. What is calcination? 1
3. Name the reducing agent which reduces the iron ore in the blast furnace. 1
4. Can we use sodium metal for drying alcohol, why? 1
5. Name the second member of the alkyne family. Give its structure. 1
6. Which functional group (s) always occurs at the terminal position of a carbon chain? 1
7. Name the hormone which prepares the body to meet any emergency situation. 1
8. Name the hormones that control blood glucose level. 1
9. Improper functioning of thyroid glands results in many abnormalities. Name one. 1
10. Define one diopetre of power of a lens? 1
11. Define the refractive index of a transparent medium. What is its unit? Which has a higher refractive index glass or water? 1
12. Name the kind of surfaces that 1
  - (i) Reflect
  - (ii) Refract most of the light falling on them.
13. Where is the image formed in an eye suffering from near-sightedness? 1
14. Which component of white light is least scattered by fog or smoke? 1
15. Why are danger light signals red in color? 1

**Section B**

16. Explain the reactions of different metals with hot water, cold water and steam. Give one example with a proper balanced chemical equation. Name two metals which do not react with any form of water. 3
17. Give reason for the following: 3
  - i. School bells are made up of metals.
  - ii. Electrical wires are made up of copper.
18. Name any two non-metals which are used in industry. How each one of them is important to us? 3
19. An organic compound 'A' has the molecular formula  $\text{CH}_2\text{O}_2$ . It turns blue litmus red and gives brisk effervescence with  $\text{NaHCO}_3$ . Identify 'A' and give chemical reaction. 3
20. Draw the electron dot structures for: 3
  - a. Ethanoic acid
  - b.  $\text{H}_2\text{S}$
  - c. Propanone
  - d.  $\text{F}_2$
21. Name the group of derivatives of hydrocarbons that have pleasant fruity smell. Explain with the help of chemical equation how these can be prepared? Name the process involved. 3
22. In figure A, B and C, which appears more accurate and why? 3



23. What is the response of stem towards light & gravity? 3
24. List the functions of testosterone and estrogen. 3
25. i. An object 1 cm high produces a real image 1.5 cm high when placed at a distance of 15cm from a concave mirror. Calculate the position of the image and the magnification. 3  
 ii. Write two uses of concave mirrors.
26. Light rays A and B fall on the component X and come out as C and D. 3



- i. Write the name of optical component.
- ii. An object is placed at the radius of curvature of a concave spherical mirror. Where does image is formed by the mirror?
- iii. What type of mirror is used in the construction of shaving glass? Why?
27. Draw ray diagram showing the image formation by a convex lens when an object is placed between focus and twice the focal length of the lens. 3
28. i. State two main causes of a person developing near-sightedness. With the help of a ray diagram, suggest how he can be helped to overcome his disability? 3  
 ii. The far point of myopic person is 100 cm in front of the eye. Calculate the focal length and power of a lens required to enable him to see distant objects clearly.
29. When one enters a less lighted room from a place of intense light, he is not able to see anything for sometime, but after sometime the things become somewhat visible. Explain how this happens? 3
30. Explain, why the Sun overhead at noon, appears white? 3