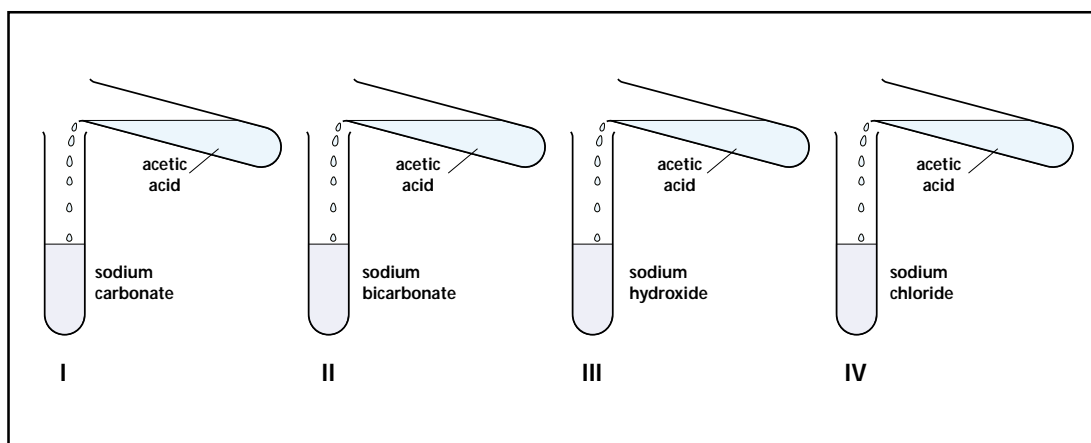


- (a) I  
 (b) II  
 (c) III.  
 (d) IV.

30. A student added acetic acid to test tubes I, II, III and IV and then introduced a burning candle near the mouth of each test tube.



The candle would not be extinguished near the mouths of test tubes

- (a) I and II.  
 (b) II and III.  
 (c) III and IV.  
 (d) I and IV.

## Question-wise Analysis and Scoring Key for Sample Paper I

Q.No	Correct choice	Explanation/ Remarks
1.	(a)	Red colour is at the top and blue colour is at the bottom.
2.	(a)	The colour of pH paper is green in neutral medium, whereas it is red in acidic medium.
3.	(b)	The surface becomes black and dull as the reaction proceeds.
4.	(a)	For the correct measurement of focal length, must have a sharp image on the screen and the meter scale must be correctly positioned between the (sharp image) screen and the centre of the concave mirror.
5.	(c)	The image gets blurred and enlarged/shortened when the screen is pushed farther/nearer from the focus of the convex lens.
6.	(a)	We need to keep the eye far from the glass slab to have a good and proper alignment of the pins.
7.	(b)	We must not only put the ammeter in series and the voltmeter in parallel (with the resistor) but also ensure that the polarities of both the instruments are correct.
8.	(a)	The plotted points should not only lie (nearly) on a straight line but the straight line must also pass through the origin. Also the current should increase (proportionally) with the applied potential difference.
9.	(d)	Circuit (I), with no dot put in between the plug key symbol, is an open circuit. Circuit (II), with the dot put there, is a closed circuit in which a current of $5/5$ A i.e. 1 A would flow.
10.	(c)	We would have a current flowing in the ammeter but no deflection in the voltmeter only if the voltmeter connections are loose.
11.	(b)	Guard cells have nucleus as well as chloroplasts.
12.	(d)	Covered portion of the leaf does not get sunlight irrespective of the colour of the strip.
13.	(c)	In (a) seeds are dormant, in (b) killed by cooking and in (d) there is no KOH.
14.	(c)	Absorption of water increases with time up to its maximum limit.
15.	(b)	The bud in yeast appears as a protuberance.
16.	(c)	Solutions in both A and B are hypotonic to raisins and hence they swell.
17.	(d)	Zinc and aluminium being more reactive will replace iron from iron sulphate.
18.	(a)	Acetic acid is corrosive and flammable.
19.	(a)	Copper is less reactive than zinc and, therefore, no reaction occurs.
20.	(c)	Acetic acid is miscible with water forming a clear solution.
21.	(a)	Zinc reacts with dilute HCl and NaOH, whereas $\text{Na}_2\text{CO}_3$ reacts only with dilute HCl.

22.	(b)	We must not only ensure that the two pins (on the incident ray) are relatively far apart but also keep the angle of incidence preferably between $30^{\circ}$ and $60^{\circ}$ .
23.	(c)	We must not look for a stereotyped circuit diagram but look for the basic condition for (i) parallel (ii) series connection of two resistors in a given circuit.
24.	(b)	The equivalent resistance, of a parallel combination of resistors, is less than the resistance of either of its two branches. The equivalent resistance, in circuit 2, is, therefore, less than $(R_1+R_2)$ (the equivalent resistance of circuit 1) and hence the current flowing through it increases. The voltage reading, in both cases, is, however, the same.
25.	(d)	Boiling kills the cells, chlorophyll leaches out when boiled in ethanol, but the leaf becomes brittle, made normal by washing it in water. Starch gets stained with iodine.
26.	(b)	Black paper covering prevents light.
27.	(d)	Seeds release $\text{CO}_2$ during respiration, which is absorbed by KOH creating a partial vacuum in the flask. To fill that water rises.
28.	(d)	Proper sequence is to be followed to handle the microscope and to focus the specimen.
29.	(d)	Copper reacts with concentrated $\text{H}_2\text{SO}_4$ on heating to give $\text{SO}_2$ . The tip of the thistle funnel should dip into conc. $\text{H}_2\text{SO}_4$ .
30.	(a)	Acetic acid reacts with $\text{Na}_2\text{CO}_3$ and $\text{NaHCO}_3$ to liberate $\text{CO}_2$