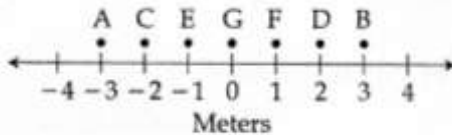


SECTION - A

1. Name the plastid which gives red colour to tomato and purple colour to brinjal.
2. What is the momentum of a man of mass 75 kg when he moves with a velocity of 2 m/s?
3. A train starting from a railway station attains a velocity of 30 m/s in one minute. What is its acceleration?
4. What is the effect of change of pressure on physical state of matter? Explain with an example of a gas.
5. How is striated squamous epithelial tissue different from Squamous epithelial tissue?
6. What happens to the force between two objects, if the distance between them is doubled? Explain with the help of formula.
7. Differentiate between homogeneous and heterogeneous mixtures. Classify the following 3 mixtures as homogeneous and heterogeneous. (i) Air (ii) Alloy (iii) Blood (iv) Butter
8. State two properties of each of the following: (a) a solid (b) a liquid (c) a gas
9. Define distillation. What type of liquids (substances) can be separated by this process ?
10. Can a single cell live independently on its own? Explain by giving example,
11. Differentiate between the three types of muscular tissues.
12. Which will have greater inertia amongst three balls, A, B and C filled with same volume of mercury, water and air respectively? Give reasons to support your answer.
13. Rahul while doing skating moves along a number line in the alphabetical order (A, B, C, D.....G) and finally stops at 'G',


(a) Calculate the distance travelled by him.

(b) Find his average velocity if he covers each metre in 1 s.
15. The weight of a body on the surface of the earth is 392 N. What will be the weight of this body on a planet whose mass is double that of the earth and radius is four times that of the earth?
16. State Newton's third law of motion. A bullet of mass 50 g is fired from a rifle, of mass 4 kg with an Initial velocity of 35 ms⁻¹. What is the recoil velocity of the rifle?
17. An animal husbandry farmer went to buy few 'Sahiwar' cows whereas other farmer wanted to purchase "Jersey cows, which had more lactation period than the first one. Ramesh, the third farmer, advised them to buy cross breed of both and which is better breed than the others.
(i) What are 'Sahiwar and 'Jersey' breeds ?
(ii) Why the cross breed produced is better than the other two breeds ?
(iii) What prompted Ramesh to advice his friends?
18. The Italian bee is better than local varieties for commercial honey production. Why ? State the meaning of pasturage.
19. How can we obtain different gases from air? Draw the flow diagram to show the steps of the process.
20. (a) When a solid melts the temperature of the system does not change after the melting point is reached even when we continue to supply heat? Give reason.
(b) Define latent heat of vaporisation. Which will cause more severe burns boiling water or steam and why?
21. Draw the labelled diagram of a section of phloem. Name the four types of elements found in phloem. With respect to conduction, what is the main difference between xylem and phloem?
22. (a) A motorcyclist riding motorcycle A is travelling at a speed of 20 m/s applies the brakes and stops the motorcycle in 10 s. Another motorcyclist of motorcycle B who is travelling at a speed of 5 m/s applies the brakes and stops the motorcycle in 20 sec. Plot speed-time graph for the two motorcycles. Which of the two motorcycles travelled farther before it carries to a stop ?
(b) A cyclist goes around a circular track once every 2 minutes. if radius of the circular track is 110 m, calculate the speed of cyclist
23. (a) Can a body exist in a state of absolute rest or of absolute motion? Explain with example.
(b) Draw a velocity-time graph for an object in uniform motion. Show that the area under the velocity-time graph gives the displacement of the object in the given time interval_
- 24.(a) Distinguish between macronutrient and micronutrients on the basis of

- (i) Their functions (ii) amount required by plants
 (b) Classify the following elements as macro or micronutrients in plants.
 (i) Nitrogen (ii) Zinc (iii) Copper (iv) Potassium
 (c) In what way deficiency of these nutrients harmful to crops ?

SECTION -B

25. Metanil yellow is adulterant of food material : (a) Turmeric powder (b) Pulses (c) Spices (d) Seeds
 26 Given below are the steps that need to be taken to test presence of Metanil yellow in dal. But these are not written in correct order :

- (i) Take a small amount of sample of dal in a test-tube. The correct order will be
 (ii) Add few drops of conc. HCl into the test-tube. (a) (i), (iv) (ii), (iii) (b) (i),(iii), (iv),(ii),
 (iii) Add 10 mL of water in the test-tube. (c) (i), (ii), (iii), (iv) (d) (i) , (iv), (iii), (ii)
 (iv) Stir the sample in water by shaking it well.

27. When a mixture of iron filings and sulphur powder was prepared, it was observed that the colour of iron filings is
 (a) Greyish (b) reddish (c) yellow (d) green

28. Take a mixture of iron filings and sulphur powder in one watch glass. Take powdered black mass obtained on strong heating of iron filings and sulphur powder in another watch glass and observe both. You will find that.

- (a) Mixture of iron filings and sulphur powder forms a homogeneous mixture while black powder of iron sulphide is heterogeneous.
 (b) Mixture of iron and sulphur is heterogeneous while iron sulphide is homogeneous.
 (c) Both are homogeneous (d) Both are heterogeneous

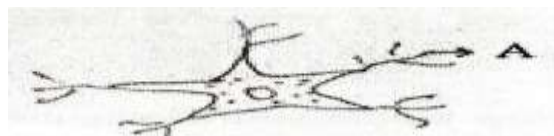
29. Reddish Brown deposit obtained on iron nails when kept in a solution of copper sulphate in 1 water is that of

- (a) CuO (b) Cu₂O (c) Cu (d) CuS

30. Anoop tabulated his observations about the cheek cells and onion cells as given below: and showed it to his teacher. Two of his observations were wrong. Which ones are they?	Sr. NO	Cheek cell	Onion cell.
(a) (i), (ii) (b) (i),(iii) (c) (ii), (iv) (d) (iii), (iv)	(i) Stain	Pink	Blue
	(ii) Nucleus	Present	Present
	(iii) Vacuole	Centrally located	Few, scattered
	(iv) Cell wall	Absent	Present

31. Part of nerve cell has been drawn here. The correct labelling for 'A' is :

- (a) cilia (b) flagella (c) tentacles (d) dendrites



32. A mixture contains iodine, ammonium chloride and sand. Only iodine and ammonium chloride sublime. Only iodine dissolves in carbon tetrachloride. How will you separate the three components?

Sequence of steps will be

- (a) Sublimation, addition of CCl₄ (b) Addition of Cam, filtration, sublimation
 (c) Sublimation, addition of H₂O, filtration. (d) Evaporation, distillation, crystallization.

33. The SI unit of weight is : (a) gram (b) kilogram (c) Newton (d) Newton meter

34. You are given aqueous solutions of sodium chloride and chalk powder. Now would you distinguish between the two without testing?

35. In an experiment to determine the boiling point of water, mention two important precautions to be taken.

36 A student recorded the mass of dry raisins as 6.0g and mass of raisins after soaking them in water for about four hours as 10.5g. Calculate the percentage of water absorbed by raisins. Why do raisins get swelled up?

Solution: 25. A 26.B 27.A 28.B 29.C 30.B 31.D 32.B 33.C

34. Filter solution to get chalk powder. Evaporate remaining solution to get sodium chloride

35. Precautions: (i) The bulb of the thermometer should be kept about 4-5 cm above the surface of water. (ii) Pieces of pumice stone should be added to water before heating to avoid bumping. (iii) Heating of water should be done by rotating the flame.

36. percent of water absorb by resin = $\frac{10.5 - 6}{6} \times 100$ Resin swell up due to osmosis (hypotonic solution)