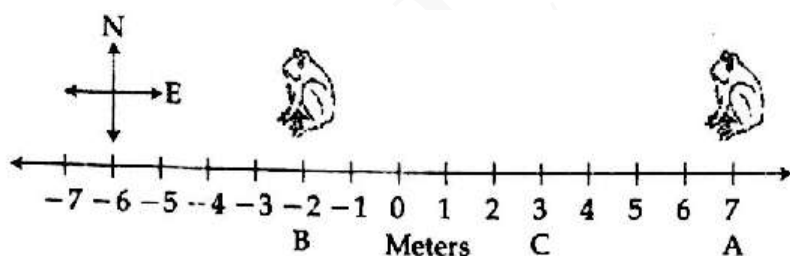


1. Name the tissue present around the vascular bun
2. State the relation between file momentum of a body and the force acting on it.
3. A body is moving with a velocity of 15 m/s. If the motion is uniform, what will be its value after 10 s ?
4. How can we obtain different gases from homogeneous mixture of air? Draw a flow diagram for it.
5. Name and define the mechanism responsible for release of water on adding salt 'to the vegetables.
6. Define gravitational constant. State its SI unit. State the value of gravitational constant (G) on the earth.
7. (a) Explain the term humidity. How does rate of evaporation depends on humidity?  
(b) why does a desert cooler cool better in the month of May, June rather than July, August.
8. A solution contains 110g of salt in 440g of water. Calculate concentration of solution in terms of mass by mass percentage. Also state whether this solution is saturated or unsaturated.
9. List the three characteristics of particles of matter.
- 10 .Name any two cell organelles which are bound by a double layered membrane. Give one function of each.
- 11 .Establish the relationship between the structure, function and location in each case :  
(a) Bone (b) Areolar tissue (c) Striated muscle
- 12.A stone is thrown in a vertically upward direction with a velocity of 6 m/s. If the acceleration of the stone during its motion is  $10 \text{ m/s}^2$  in the downward direction, what will be the height attained by the stone and how much time will it take to reach there ?
13. A frog hops from point 'A' to point 'B', along a straight line path and then turns and hops point 'C'  
(a) What is the distance travelled by the frog ? (b) What is the magnitude and direction of displacement ?



- 14.(a) State law of conservation of momentum. (b) A bullet of mass 10 g is fired from a gun of mass 6 kg with a velocity of 300 m/s. Calculate the recoil velocity of the gun.
15. On a velocity-time graph, draw three lines/curves to represent the motion of an object: (a) moving with zero acceleration.(b) moving with positive acceleration. (c) moving with negative acceleration.
16. (i) Suppose a planet exists whose mass and radius both are one - half of the value of earth. Calculate the acceleration due to gravity on the surface of this planet. (ii) What is the acceleration produced in a freely falling body of mass 10kg (Neglect air resistance).
- 17.Amit and Sabina visited a village for the first time. They noticed a farmer mulching some plants by ploughing them into the soil. They could not get the reason so they asked the farmer.

(i) Why the farmer was mulching the plants into the soil? (ii) Name the nutrients that enrich the soil by doing this. (iii) State values of Amit and Sabina depicted here?

18.(a) In what way broilers' feed is different from layers' ? (b) Which one of these matures earlier? (c) What type of shelter is provided to them ' ?

19. (a) Write any two differences between homogeneous and heterogeneous mixtures. (b) Identify homogeneous and heterogeneous mixtures among the following -Air, salt solution, kerosene in water, muddy water, soil, soda water.

20. Which of the following are matter and in which physical state they exist and why ? Chair, air, smell of perfume, almonds, and water. (Write answer in tabular form)

21. Identify the following tissues:

- (i) The epithelial tissue which has pillar like tall cells
- (ii) The cells of this tissue are filled with fat globules
- (iii) The movement of this tissue pushes the mucus forward to clear respiratory tract.
- (iv) It gives buoyancy to lotus to help it afloat
- (v) Tissue present in lung alveoli

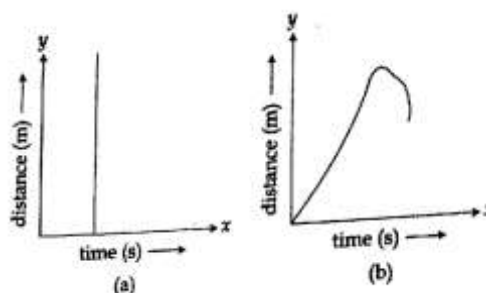
23. (a) Derive the equation of motion,  $2as = v^2 - u^2$  by graphical method.

(b) Which of the following distance-time graphs is possible? Give reason for your answer.

24. How does maximum utilisation of available resources be ensured in composite fish farming ? Mention its limitation? Discuss how this limitation of composite fish culture can be overcome

22. (a) What is meant by :

- (i) free fall (ii) acceleration due to gravity
- (b) Is there a change in the velocity of a freely falling object? Why?
- (c) What is the difference between 'C' and 'g'.

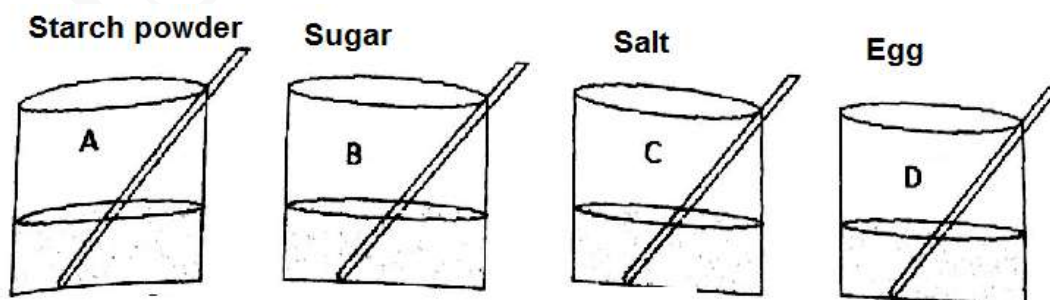


### SECTION – B

25. Metanil yellow is added to arhar dal so that its :

- (a) Colour and appearance      (b) gets improved Weight
- (c) gets increased Taste        (d) gets improved Consumption become unfit.

26. Four students A, B, C and D are asked to prepare colloidal solutions. The following diagrams show the preparation done by them. Name the student, who will be able to prepare colloidal solution.



27. Four students (A), (B), (C) and (D) observed the colour and solubility of iron, sulphur and iron sulphide in carbon disulphide. The tick mark ( $\checkmark$ ) represents 'soluble' and cross mark (X) represents 'insoluble' in carbon disulphide. Their observations are tabulated

Student	Colour			Solubility in Carbon disulphide		
	Iron	Sulphur	Iron sulphide	Iron	Sulphur	Iron sulphide
A	Yellow	Silvery	Greyish silver	$\checkmark$	X	$\checkmark$
B	Silvery	Orange	Reddish brown	X	$\checkmark$	$\checkmark$
C	Gray	yellow	Greyish Black	X	$\checkmark$	X
D	Silver	White	Silvery White	$\checkmark$	X	X

In the table correctly reported observations is of student: (a) A (b) B (c) C (d) D

28. Which one of following is a mixture of an element and a compound?

- (a) Carbon tetrachloride and water (b) Sulphur powder and iron filings  
(c) Kerosene and water (d) Sulphur and carbon disulphide

29. Take dilute sulphuric acid in a test tube and put a few zinc granules into test tube. You would observe that :

- (a) Zinc granules changes to powder (b) Colour of zinc changes from grey to white  
(c) Size of zinc, granules keep on decreasing (d) Surface of zinc metal becomes bright

30. Tina was observing a human cheek cell slide stained with Methylene blue under a microscope' The colour of the cell appears to be : (a) red (b) blue (c) black (d) yellow

31. While observing a Permanent slide under microscope Rita identified the slide as of striated muscles due to :

- (a) Uninucleate and spindle shaped cells (b) multinucleate and unbranched cells  
(c) Uninucleate and branched cells (d) multinucleate and branched cells

32. Identify the substance which sublimates on heating;

- (a) Potassium chloride (b) sodium chloride (c) calcium chloride (d) anthracene

33. A rectangular wooden block open from one side is lying on a horizontal table. Different weights are kept in the box one by one. To establish relationship between weight of a block and the minimum force required to just move it using a spring balance, it is observed that the force required to just move the rectangular block is maximum when we put in it a weight of : (a) 30g wt. (b) 20g wt (c) 35g wt. (d) 25g wt.

34 .State the method by which we can prepare colloid of starch.

34. Mention the type of thermometer that should be used to determine the melting point of ice in laboratory. What should be the position of bulb of thermometer?

35. While doing an experiment to find out the percentage of water absorbed by raisins a student recorded the mass of dry raisins as 4.0g and mass of raisins after soaking in water as 70g Calculate the percentage of water absorbed by raisins