

SECTION - A

1. State one difference between a gas and a vapour.
2. List any two single celled (unicellular) organisms. *Paramecium, bacteria*
3. State the meaning of balanced forces.
4. Give reason why we are able to sip hot tea or milk faster from a saucer rather than a cup?
5. On dissolving chalk powder in water, a suspension is obtained. Give any four reasons to support the fact that mixture so obtained is a suspension only.
6. State the role of ligaments and tendons in our skeletal system.
7. Tabulate any two points of difference between 'g' and 'G'
8. Define draught animals. Mention the desired qualities which will be seen in a cross - breed between a brown Swiss and a sahiwal? What are concentrates in a cattle feed?
9. Why are manures and fertilizers used in fields? A farmer irrigated his field excessively just after applying fertilizers. Explain why this is not a correct practice?
10. (a) What happens when acetone is poured on the palm?
 (b) Name the process involved in the following changes.

(i) liquid to solid	(ii) gas to liquid
(iii) solid to gas	(iv) solid to liquid
11. Write two points of difference between simple distillation and fractional distillation. Write example where fractional distillation is used.
12. (a) Draw a diagram of a plant cell and label it's any two parts.
 (b) Write one difference between an animals cell and a plant cell.
13. Write the location and one function of each of the following?
 - (a) Cuboidal epithelium
 - (b) Glandular epithelium
 - (c) Columnar epithelium

14. (a) Draw the adipose connective tissue.
(b) Mention one region in the body where this tissue is present and state one function of this tissue.
15. Plot velocity-time graph for a body whose initial velocity is 5 m/s and is moving with a retardation of 1 m/s^2 . Also calculate the distance covered by it.
16. A scooter is moving with a velocity of 25 m/s and it takes 5 s to stop after the brakes are applied. If the mass of the scooter along with the rider is 180 kg, find the change in momentum in this case.
17. (a) When two bodies X and Y collide with each other, X exerts a force of 5 N on Y towards east direction. What is the force exerted by Y on X? Justify your answer stating the law.
(b) A circular groove is provided in a saucer for placing the tea cup in it. Give reason.
18. Sohan is playing with a ball. If he throws the ball in vertically upward direction with a velocity of 10 m/s, find the maximum height reached by the ball and time taken by it to attain the maximum height.
19. (a) The moon is acted by the gravitational pull of earth, still it does not fall into earth. Explain why?
(b) Determine the ratio of weight of an object of mass 50 kg on earth and on moon (Given acceleration due to gravity on moon, $g_{\text{moon}} = 1/6^{\text{th}}$ of g on the earth)
20. (a) A student visited a fish farm where he found Catla, Rohu, Mrigals, Common Carps and Grass Carps cultured in the same pond. Name the type of fish farming observed by the student.
(b) Mention the advantages of such farming system.
(c) What is the main problem in such fish farming? How do farmers overcome such problems?

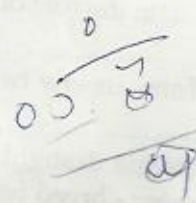
overcome such problems ?

अथवा / OR

- (a) List the different ways in which biotic and abiotic factors affect stored food grains ?
- (b) What preventive and controlling measures need to be taken before and after storing the grains.
- (c) Name two weeds.



- 21.
- (a) Define evaporation.
 - (b) Explain how the following factors affect the rate of evaporation of a liquid.
 - (i) temperature of a liquid
 - (ii) area of the exposed surface
 - (iii) moisture in the surrounding air
 - (iv) increase in wind speed.



अथवा / OR

- (a) What is matter ?
- (b) The rate of diffusion of liquids is higher than that of solids why ?
- (c) Write two properties of gases and two properties of solids.
- (d) Write the full form of
 - (i) LPG
 - (ii) CNG

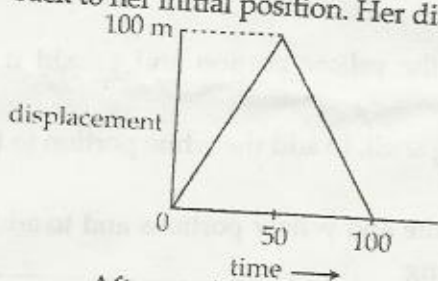
- 22.
- (a) Name the appropriate methods to separate the following mixtures :
 - (i) Nitrogen from air
 - (ii) dye from blue ink
 - (iii) cream from milk
 - (iv) pigments from natural colours.
 - (b) Crystallisation is better technique than simple evaporation. Give one reason to justify the statement.
 - (c) Draw a labelled diagram to show the process of separation of two immiscible liquids.

अथवा / OR

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- (a) Write any three differences between a physical change and a chemical change.
- (b) When a solution is said to be saturated? How can you change a saturated solution to an unsaturated solution without adding any more solvent to it? Explain in brief.

23. A girl walks along a straight path to drop a letter in the letter box and comes back to her initial position. Her displacement time graph is as shown below.



- After studying the above graph answer the following questions.
- (a) Give the value of initial displacement and final displacement of the girl.
- (b) Determine her velocity at $t = 0$, $t = 50$ s and $t = 100$ s respectively.
- (c) Using above information plot a velocity - time graph for the same.

अथवा / OR

Define average speed. How is it different from average velocity? A motorcyclist drives from A to B with a uniform speed of 30 km/h and returns back with a uniform speed of 20 km/h. Find his average speed.

24. (a) Explain why seat belts are provided in cars?
- (b) State the law governing above observation.
- (c) Mathematically show how Newton's 1st law is a special case of Newton's second law.

अथवा / OR

- (a) Define Force.
- (b) Derive an expression for calculation of force.
- (c) Explain how a karate player is able to break a pile by a single blow.

SECTION - B

25. Out of the under mentioned groups of food items, the group which will not turn blue black when treated with iodine solution is :

- (a) rice, potato, bread
- (b) bread, wheat, corn flour
- (c) rice, boiled potato, corn starch
- (d) dal, fish, meat.

26. Rama washed a small amount of arhar dal in water. The water become yellow. She put a few drops of Conc. HCl in test tube containing yellow water. The sample turned pink. This shows that :

- (a) dal is not adulterated
- (b) dal contains protein
- (c) dal is adulterated with metanil yellow
- (d) dal is coloured with turmeric

27. To determine the melting point of ice, the precaution which is not correct to be followed is :

- (a) zero mark of the thermometer remains above the ice surface.
- (b) keep stirring the mixture and look at the thermometer.
- (c) crush the ice into small pieces.
- (d) do not dip the bulb of the thermometer in crushed ice

28. A thermometer has 20 equal divisions between 90°C and 100°C marks. A student while determining the boiling point of water finds that the mercury thread becomes stationary at the 19th mark above 90°C . He should record the boiling point of water as :

- (a) 90.19°C
- (b) 99.5°C
- (c) 109°C
- (d) 119°C

29. The first step involved in the separation of mixture of sand, common salt and ammonium chlorides :
- | | |
|-------------------------|-----------------------------------|
| (a) Magnetic separation | (b) Chromatography |
| (c) Sublimation | (d) Sedimentation and decantation |
-
30. The correct procedure for preparing a colloidal solution of egg albumin in water is :
- (a) to break the egg shell, take only white portion and to add to it water with constant stirring.
 - (b) to break the egg shell, take only the yellow portion and to add it to boiling water with constant stirring.
 - (c) to boil the egg first, to break the egg shell, to add the white portion to the cold water and to mix.
 - (d) to break the egg shell take both white and yellow portions and to add it to boiling water with constant stirring.
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31. In the mixture of iron filings and sulphur powder :
- (a) only iron filings get attracted towards magnet.
 - (b) only sulphur powder gets attracted towards magnet.
 - (c) both sulphur powder and iron filings get attracted towards magnet.
 - (d) neither iron filings nor sulphur powder get attracted towards magnet.
-
32. Rakshita was doing an experiment on chemical reactions. She added dil. Sulphuric acid to zinc granules. She will observe that :
- (a) a precipitate is formed.
 - (b) the container becomes hot.
 - (c) the reaction mixture turns yellow
 - (d) bubbles start coming out from the surface of zinc granules.
-
33. In laboratory the precaution which should be taken with carbon disulphide is :
- (a) Should be kept away from flame.
 - (b) Should be kept away from carbon.
 - (c) Should be kept away from distilled water.
 - (d) should be kept away iron sulphide.
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34. m

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34. The crystals of copper sulphates turn white on heating due to :
- (a) Loss of sulphate ions
 - (b) Loss of copper ions
 - (c) Loss of water crystallization
 - (d) Decomposition of copper sulphate.
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35. The correct method of obtaining an onion peel is to :
- (a) take the thinnest bit after meshing an onion leaf
 - (b) make thin section of a thick scale leaf using a blade
 - (c) use of forceps to pull out a thin transparent peel from a concave surface of a scale leaf.
 - (d) use a needle and forceps to remove a thin transparent peel from convex surface of a scale leaf.
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36. The precaution which is incorrect in an experiment to prepare temporary mount of onion peel is :
- (a) the folding of peel should be avoided
 - (b) use a brush to transfer the peel from watch glass to the slide
 - (c) remove extra water or glycerine coming out of the cover slip with the help of another cover slip
 - (d) While putting a cover slip, bubbles should be avoided.
-
37. Human cheek cells are commonly stained with
- | | |
|------------------|--------------|
| (a) methylene | (b) safranin |
| (c) acetocarmine | (d) Eosine |
-
38. While observing the slide of a tissue suresh found that the cells have thickened cell walls and inside the cell, there is no protoplasm. The given tissue must be :
- | | |
|------------------|-----------------|
| (a) parenchyma | (b) collenchyma |
| (c) sclerenchyma | (d) phloem |

39. A student was asked to write the characteristic features of nerve cell after viewing it under the microscope. The correct features will be :
- Oval shaped cells with lobed nucleus
 - Spindle shaped cells with bands
 - Loosely packed cells floating in matrix
 - A cell body with branched cytoplasmic extensions at one end and a long projection at the other end.

40. In an experiment to calculate the percentage of water absorbed by raisins a student recorded the mass of dry raisins as 16g and the mass of raisins after soaking in water for four hours as 20g. The percentage of water absorbed by raisin is :
- 25%
 - 30%
 - 60%
 - 40%

41. While doing an experiment to establish relationship between weight of a rectangular wooden block lying on a horizontal table and the minimum force required to just move it. Student A performed the experiment on wooden table and calculate force as F_A , student B on table covered with sand calculated force as F_B , student B on table covered with oil poured on it calculated force as F_C . Then :
- $F_A < F_B < F_C$
 - $F_A < F_B > F_C$
 - $F_A = F_B = F_C$
 - $F_A > F_B > F_C$

42. While performing an experiment to establish relationship between weight of a rectangular wooden block lying on a horizontal table and the minimum force required to just move it using a spring balance, a student calculated the minimum force required as 180 gwt. to move the wooden block of 400 gwt. If he places another block of mass 100 gwt. over it then the force required will :
- remain same
 - decrease
 - increase
 - may decrease or increase.