Class 9-SA-1-TEST-1

SECTION A

1- Ice and water are essentially the same substance. Mention any two differences in their properties.

2- What kind of force is required to accelerate the motion of an object?

3- Name the process in which diffusion takes place through a selective permeable membrane.

4- State four properties of a true solution.

5- What is free fall? What will be the acceleration of free fall?

6 -Name the scientist who discovered cells? List any two single celled (unicellular) organisms.

7- State the role of ligament and tendons in our skeletal system.

8- In a tabular form distinguish between solids, liquids and gases under the following characteristics:

a) Density
b) volume
c) compressibility

9-

a) What separation technique will you apply for separation of the following?

i) Ammonium chloride from sodium chloride.

ii) Different pigments from the extract chloride.

b) What is crystallization? List two ways in which crystallization technique is better than

10 - A car is accelerated uniformly from 36 km per hour to 90 km per hour in 3 seconds. Calculate:

a) The acceleration of car
b) The distance covered by the car in that time.

11- State Newton's 1st law of motion? Why is it called as law of inertia? On what factors does inertia depends? Does inertia play any role for an object moving on a frictionless surface with uniform speed? Justify your answer.

12- Distinguish between mass and weight of an object. How does weight of an object change on moving from equator to poles? When can the weight of an object be zero?

13- State Newton's third law. Are the forces mentioned in the law balanced forces why? Will they always produce acceleration of equal magnitude? Why?

14- A stone is released from top of a tower of height 44.1 m. With what velocity and in how much time does it reach the earth? ($g = 9.8 m/s^2$).

15- A) Draw labelled diagram of striated muscles.

B) Mention any two characteristics features of the cells that form the above muscular tissue.

16- List the specific functions of the following:

Rough Endoplasmic Reticulum

Golgi apparatus

Lysosomes

Mitochondria

Plastids

Vacuoles in unicellular organism

17

a) list two characteristics each of roughage and concentrate in relation to animal feed. Give one example of each.

b) Which method is commonly used for improving cattle breeds?

18- Distinguish between intercropping and mixed cropping. List any two advantages of intercropping over mixed cropping.

19- What is a colloidal solution? How is it different from a true solution? Describe a method to separate the components of a mixture of iron filings, ammonium chloride and sand.

OR

Write two differences between colloids and suspensions. With the help of a labeled diagram describe a method of separating a mixture containing petrol and kerosene (difference in their boiling point is more than 25*C), which are mixicible with each other.

20- List three characteristics of particles of matter. Describe one example for each characteristic of illustrate it. Name the characteristics which are responsible for (a) spreading of smell of scent in a room and (b) water taking shape of the vessel in which poured.

21- Define inertia. There are three solid balls, made up of aluminum, steel and wood of same shape and volume. Which of them would have highest inertia? Why?

22-

a) Describe in brief an activity to illustrate the property of inertia of rest.

OR

a) Using Newton's law of motion, derive the relation between force and acceleration.

b) Define one Newton.

c) Which would require a greater force to accelerate a ½ kg mass at 5 m/s^2 or a 4 kg mass at 2 m/s^2? Give reason.

23-

a) Draw the shape of velocity- time graph of a uniformly accelerated motion of a body

b) Derive the velocity- position equation of motion ($v^2=u^2+2aS$) graphically (with the help of a velocity- time graph).

OR

a) Draw graph for the following cases:

i) When the object is at rest

ii) when the object is thrown vertically upwards

b) A motorcyclist riding motorcycle A who is travelling at 36 km/h applies the brakes and stops the motorcycle in 10 s. Another motorcyclist of motorcycle B who is travelling at 18 km/h applies the breaks and stops the motorcycle in 20s. Plot speed-time graph for the two motorcycles. Which of the two motorcycles traveled farther before it comes to a stop?

24-

a) What are the two ways by which we can obtain fish for our food? Explain. How is culture of Pomphret and Mackeral different from that of Catla and Rohu?

b) Give an example each for

i) Fresh water prawn

ii) Marine water prawn

OR

a) A farmer found that xanthium and parthenium are also growing along with paddy in the field? What are such plants called? How the presences of these plants affect the crop yield?

b) List any four methods for controlling and preventing the growth of such plants.

SECTION B

25- To prepare a colloidal solution of starch we should:

a) Add starch powder to boiling water and cool

b) Add starch powder to cold water and boil

c) Heat starch powder, add it to the cold water and then bring to boil

d) Add a thin paste of starch to boiling water while stirring.

26- A well stirred and filtered solution of egg albumin in water forms:

a) True solution
b) Suspension
c) Colloidal solution
d) Emulsion

27- Mohan heated a mixture of sulphur and iron filings in a china dish till a grey- black product was formed. On adding carbon disulphide and stirring the contents he observed that:

a) Particles of sulphur dissolve
b) Particles of iron dissolve
c) Grey black product dissolves
d) No change takes place

28- The color of zinc metal as available in laboratory is:

a) Blue
b) Black
c) Silverfish
d) Green

29- When a thermometer is kept in the ice the reading shows that

a) Temperature keeps increasing
b) Temperature keeps decreasing
c) Temperature increases first and then decreases
d) Temperature first decreases and then remains constant at 0*C.

30- For the accurate determination of the boiling point of water, we use

a. Tap water
b. Distilled water
c. Salt water
d. Sugar water

31- The correct sequence of steps for separating a mixture of sand, ammonium chloride and sodium chloride is:

a) Sublimation, evaporation, adding water, filtration
b) Sublimation, adding water, filtration, evaporation
c) Evaporation, sublimation, adding water, filtration
d) Evaporation, adding water, filtration, sublimation

32- Students were given iron filings and sulphur. They heated both of them to get a compound. On testing it was found that the properties of the compound and its components are:

a) Similar
b) Slightly similar
c) Different
d) Both (b) and (c)

33- The color of the product obtained on burning of magnesium ribbon is

a) White
b) Black
c) Blue
d) Brown

34- To separate a mixture of common salt and ammonium chloride by sublimation following apparatus was provided by the laboratory assistant to a student.
Two 200mL beakers, iron stand, china dish, wire gauge, Bunsen burner, a glass rod, cotton wool.
The part of apparatus missing is a:

a) Filter paper
b) Glass funnel
c) Thermometer
d) Petri dish

35- A student recorded the mass of dry raisins as 5.0 g and the mass of raisins after soaking in water as 8 g. while performing the above experiment. The percentage of water absorbed by raisin is:

a) 20%
b) 30%
c) 60%

d) 40%

36- After observing two freshly prepared temporary mount under the microscope, the following observations were recorded:

a) Rectangular cells
b) Irregular shaped flat cells
c) Presence of a large vacuole
d) Presence of a single wall

If the slide was of the onion peel it will show:

(a) (i) and (ii)
(b) (i) and (iii)
(c) (ii) and (iii)
(d) (ii) and (iv)

37- Arhar dal becomes dark yellow due to adulterant:

a) Metanil yellow
b) Turmeric
c) Itching yellow
d) Hyena blue
e) Malachite green

38- Meenu was trying to test the presence of starch in potato tuber. She forgot the reagent with which the starch gives blue colour. Help her to select the correct reagent from the following:

a) Safranin
b) Methylene blue
c) Iodine
d) Eosin

39- Which one of the following is the correct step, in the procedure for making a temporary slide of human cheek cell?

a) Place the cheek cell scrapings in a watch glass containing water.
b) Place cheek cell scrapings in the centre of a clean slide.
c) Dip the tooth pick containing cheek cell scraping in the stain and then transfer to a clean slide.

d) Obtain cheek cells directly in the slide using its edge to scrap the inside of the cheek.

41- Raisins swell up after being placed them in beaker containing water for some time because

a) Water inside the raisins exits when placed in a beaker of water.
b) The concentration of water in the cell sap is the same as that of water in the beaker.
c) The concentration of water in the cellsap in higher than the water in the beaker.
d) The concentration of water in the cell sap is lesser than that of water in the beaker.

42- Striated muscle fibre can be identified by:

a) Nuclei lying towards the periphery
b) Star like structure
c) Cells with tapering ends
d) Centered nuclei