INTERNATIONAL INDIAN SCHOOL ,DAMMAN

TERM I (2017)

CLASS : IX **SCIENCE**

SET –A

TIME : 3 Hrs **MARKS : 80**

GENERAL INSTRUCTIONS

1. All the questions are compulsory.
2. Question numbers **9, 13, 20** have internal choices.
3. Question numbers **1** and **2** carry **one mark** each.
4. Question numbers **3** to **5** carry **two marks** each.
5. Question numbers **6** to **15** carry **three marks** each.
6. Question numbers **16** to **21** carry **five marks** each.
7. Question numbers **22** to **27** are based on practical skills and carry **two marks** each.

1. Heavier bodies need greater initial effort to put them in motion. Why? 1

2. Which of the two diffuses slowly : Bromine vapour into air or copper sulphate into water . 1

3. Name the different types of endoplasmic reticulum. How are they different from each other with regard to their functions? 2

4. How can the velocity of an object be changed? 2

5. Two objects of masses m and 4m move with velocities v and 4v respectively. Calculate the ratio of their momenta. 2

6. Name the different types of plastids. State one function for each type. 3

7. Give reasons for the following: 3
   a) A cell swells up when placed in hypotonic solution.
   b) Mitochondria are called the power houses of the cell.
   c) Plasma membrane is a selectively permeable membrane.

8. Name the following: 3

i) Tissue that stores fat in our body.
ii) Tissue that forms the inner lining of the mouth cavity in humans.
iii) Connective tissue that connects two bones.
iv) Parenchyma tissue that gives buoyancy to plants so that they can float.
v) Tissue that forms the muscles of the heart.
vi) The thickening present in the cell wall of sclerenchyma tissue.

9. Differentiate between bone and cartilage. (write three points of distinction) 3

OR

How many types of elements together make the xylem tissue? Name them. State the functional difference between xylem and phloem.

10. a) Distinguish between speed and velocity. (2 points) 3
b) Under what conditions is the magnitude of average velocity of an object equal to its average speed?

11. Using Newton's second law of motion, derive the relation between force and acceleration. 3

12. a) Draw velocity –time graph to show the 3
i) Change in velocity of a freely falling body.
ii) Change in velocity of a body thrown vertically upwards.
b) Comment on the kind of motion of a body while
i) It comes down ii) It goes up

13. Give reason and give the law related to the following statements : 3
i) We fall in the forward direction when a moving bus stops suddenly.
ii) A rubber ball rebounds when struck against a hard floor.

OR

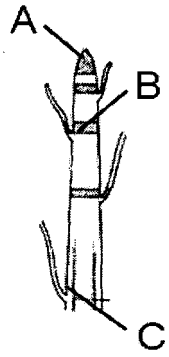
State Newton's third law of motion. Explain why is it difficult to stand erect after shooting a bullet from the gun.

14. a) How is evaporation different from boiling? 3
b) Wet clothes dry slowly during rainy season. Why?
c) What determines the state of a substance?

15. a) When is a solution said to be saturated? 3
b) Classify the following into sol, aerosol, gel
Milk of magnesia ,smoke, mist, butter
c) State 2 properties of suspension

16. a) State any three differences between prokaryotic and eukaryotic cell. 3
    b) What would happen if there were no lysosomes in the cell? (Give two effects) 2

17. a) Identify and name the tissues A ,B , C from the given figure. 5
    b) Mention the location of these tissues in the plant body.
    c) State one function each of any two of the above tissues.



18. a) Using velocity – time graph derive $S = ut + 1/2at^2$ 5
    b) Speed of a car is 108 km/h, Express this in m/s and km/min

19. a) Name the physical quantity which changes continuously during uniform circular motion. 5
    b) Why is the motion of a satellite around the earth an accelerated motion?
    c) A bullet of mass 5g travelling at a speed of 120m/s penetrates deeply into a fixed target and is brought to rest in 0.01 sec. Calculate
        i) The distance of penetration in the target.
        ii) The magnitude of force exerted on the bullet.

20. a) Why is crystallization better than evaporation? 5
    b) State the principle of centrifugation.
    c) Give one difference between mixtures and compounds.
    d) Name the technique used to separate
        i) Gases from air. ii) Mixture of oil and water.

OR

    a) What are miscible liquids?
    b) Draw and label the diagram of the apparatus used to separate components of two miscible liquids (water and acetone). Name the process and state its principle.

21. a) Ice at 0^0 C is more effective in cooling than water at the same temperature. Why? 5
    b) Arrange the three states of matter in increasing order of
        i) Rate of diffusion ii) Particle motion
    c) A solution contains 30g 0f sugar in 370 g of water. Calculate the concentration of the solution.

22. i) Sodium sulphate and barium chloride solutions are mixed in a test tube, a white precipitate is formed. What type of change is this ? 2

a) Physical change b) Chemical change
c) Physical and chemical change d) None of these

ii) At what temperature does ice and water co- exist under atmospheric pressure?

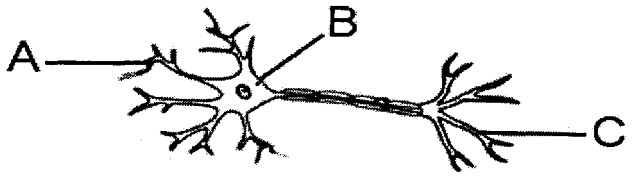
a) at 0^0 C b) below 0^0C c) above 0^0 C d) at 5^0 C

23. Magnesium ribbon burns in air with a dazzling white flame and leaves behind a residue. Name the residue formed and state its colour. 2

24. Components of a mixture of salt ,ammonium chloride are to be separated ,Select the correct sequence 2

a) Sublimation, dissolving in water, filtration, evaporation
b) Sublimation, filtration, dissolving in water, evaporation
c) Sublimation, evaporation, filtration, dissolving in water
d) Evaporation, filtration, dissolving in water, sublimation.

25. The figure shows unit of the nervous tissue. Name this unit. And label the parts marked with A, B and C. 2



26. Following is the slide as observed under the microscope. 2

i) Identify and name it.
ii) Write one characteristic feature of it.

27. i) Rohan has prepared a temporary mount of onion peel. The stain used by him is - 2

a) methylene blue b) safranin
c) acetocarmine d) eosine

ii) The stained parts of the onion peel cells are -

a) cell membrane, nucleolus , cytoplasm b) cell membrane, nucleus vacuoles,
c) cell wall, nucleus, cytoplasm d) cell wall nucleus, vacuoles.

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