INDIAN SCHOOL SOHAR
PERIODIC TEST II (2018 -19)
SUBJECT: SCIENCE

CLASS: IX   **Max. Marks: 80**
DATE: 20/09/2018   **Duration: 3Hrs__**

General Instructions:
(i)   The question paper comprises of two Sections, **A** and **B**. You are to attempt both the sections.
(ii)   The question paper consists of 27 questions. **All** questions are **compulsory.**
(iii) All questions of Section, **A** and all questions of Section **B** are to be attempted separately.
(iv)   Question numbers 1to2 in Section **A** are one- mark questions. These are to be answered in one word or one sentence.
(v)   Question numbers 3to5 in Section **A** are two- marks questions. These are to be answered in about 30 words each.
(vi)   Question numbers 6 to 15 in Section **A** are three- marks questions. These are to be answered in about 50 words each.
(vii) Question numbers 16 to 21 in Section **A** are five- marks questions. These are to be answered in about 70 words each.
(viii) Question numbers 22 to 27 in Section **B** are two- marks questions based on practical skills. These are to be answered in brief.
(ix)   There is no overall choice. However, an internal choice is provided in three questions of 3 marks each and two questions of 5 marks each in Section A and in one question of two marks in Section B.
 (x)   Wherever necessary, the diagrams drawn should be neat and properly labelled.

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SECTION A

1. Mitochondria is called the power house of the cell. Why?   1

2. What is the dispersed phase and dispersing medium in shaving cream?   1

3. a) What is meant by balanced forces?   2

   b) Using a horizontal force of 200N, we intend to move a wooden cabinet across a floor at a constant velocity. What is the friction force that will be exerted on the cabinet?

4. State two features of the muscles present in the heart.   2

5. A solution contains 5.6g of NaCl mixed with 75mL of water. Calculate the concentration of the solution.   2

6**.** Two forces F_1 and F_2 are acting on an object as shown in the figure.   3

   a) What is the net force acting on the object?
   b) What is the direction of the net force acting on the object?
   c) If the mass of body is 10kg, what will be the acceleration produced in it?

7**.** a) Define momentum of a body.   3
   b) Write its SI unit.
   c) How much momentum will a dumb bell of mass 10kg transfer to the floor if it falls from a height of 80cm? Take its downward acceleration to be 10m/s².

8. a) Name the property by virtue of which a body resists the change in its state of rest or state of   3
uniform motion along a straight line. Name the physical quantity that measures it.

b) State Newton's third law of motion. Explain, why a gun recoils after firing.

OR

State which of the following situations are possible and give an example for each of these:
a) an object with a constant acceleration but with zero velocity.

b) an object moving in a certain direction with an acceleration in the perpendicular direction.

9. Draw distance – time graph for a body: 3
 a) at rest.
 b) in uniform motion.
 c) in non-uniform motion.

OR

a) Define uniform circular motion. Is it an accelerated motion? If yes, what is the direction of acceleration?

b) An athlete completes one round of a circular track of diameter 200m in 40s. What will be the distance covered at the end of 2 minutes 20s?

10. Account for the following :   3
 a) Gases are highly compressible.

 b) Our palm feel cool when we put some acetone or petrol on it.

 c) Sponge is compressible yet it is considered to be a solid.

11. a) State two ways by which you can distinguish a true solution from a colloidal solution.   3
  b) List down two applications of Chromatography.

12. a) State one similarity and one difference between evaporation and boiling   3
  b) What are the factors affecting evaporation?

13. Give reason for the following: 3
 a) Plastids are able to make some of their own protein.

 b) Cells of plants can withstand much greater changes in the surrounding medium than an animal cell.

 c) Lysosomes known as suicide bags of the cell.

14. With the help of a diagram show the location of meristematic tissues and state one function   3
of each.

OR

Identify the type of tissue given below and mention one function of each.

15. Write the characteristic features of the division of plant kingdom to which Marsilea belongs.   3

16. a) With the help of a velocity – time graph, derive the relation $s = ut + \frac{1}{2}at^2$.   5

    b) A train starting from rest attains a velocity of 72km/h in 5 minutes. Assuming that the acceleration is uniform, find i) the acceleration ii) the distance travelled by the train for attaining this velocity.

17. a) State law of conservation of momentum.   5

    b) Derive the unit of force using the Newton's second law of motion?

    c) A force of 5N produces an acceleration of 8m/s² on a body of mass m_1 and an acceleration of 24m/s² on a body of mass m_2. What acceleration would it give if both the masses were tied together?

18. What is meant by protoplasm? Explain the significances of plasma membrane in both unicellular and multicellular organisms.   5

19. Anabaena and Euglena belongs to two kingdoms of the living world. Compare and contrast the features of organisms belonging to the two kingdoms.   5

<div align="center">OR</div>

   State the importance of the following:

    (a) DNA   (b) Ribosomes   (c) Areolar tissue   (d) Cotyledons   (e) Phloem.

20. a) State two ways by which a saturated solution can be made unsaturated .   5

    b) What does the diffusion of gases tell us about their particles? Give one example of diffusion of gas in liquid.

    c) Describe an activity with labelled diagram to show sublimation of ammonium chloride.

<div align="center">OR</div>

    a) What type of clothes should we wear in summer and why?

    b) Which method of separation is used to separate a mixture of kerosene oil and water. Describe with the help of a labelled diagram.

21. What is the separation technique used for two miscible liquids having a difference of 15K in their boiling points. List down two conditions for the process. Explain the technique with the help of a diagram.   5
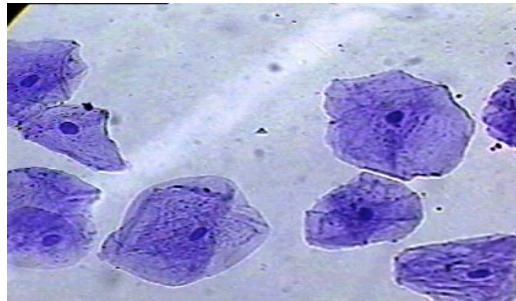
<div align="center">SECTION B</div>

22. A and B show leaf venation. Identify the type and mention to which group of angiosperm it belongs. 2
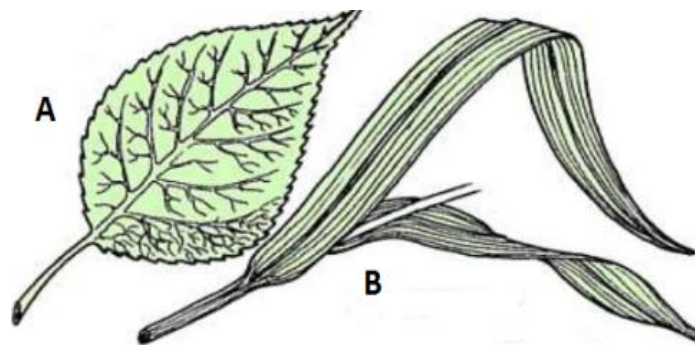
23. Write the names of solutions used to stain plant cell and animal cell while preparing temporary   2
    slide.

<center>**OR**</center>

   Identify the image. Write one function of the given tissue.

24. Classify the following into chemical or physical change :   2
    a) Mixing of iron fillings and sand.
    b) Sublimation of Naphthalene balls.
    c) An almirah gets rusted.
    d) Making a fruit salad with raw fruits.

25. State two differences between a mixture and a compound.   2

26. While determining the density of a solid sphere a student noted down the following readings.   2
    a) Mass of the sphere = 64g.
    b) Reading of water level in the measuring cylinder without sphere in it =62ml.
    c) Reading of water level in the measuring cylinder with sphere in it = 70ml.
      On the basis of these observations, what should be the density of the solid?

27. What is the speed of the pulse of the slinky indicated in the figure given below? Given the pulse   2
    took 4s to travel from A to B and then back to A.

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