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INDIAN SCHOOL SOHAR

STD IX | **PERIODIC TEST- II (2017-2018)** | **Time: 3Hours**

17-9-17 | **SCIENCE** | **Marks: 80**

General Instructions:

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*(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 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 two questions of 3 marks each and one question of 5 marks.
(x) Wherever necessary, the diagrams drawn should be neat and properly labelled.

SECTION A

1. Identify the heterogeneous mixture from the following:
Brass, milk, copper sulphate solution, starch solution 1

2. What is the function of aerenchyma in aquatic plants? 1

3. Two balls A and B of masses ‘m’ and ‘2m’ are in motion with velocities 2v and 1v respectively. Compare (a) their inertia and (b) their momentum. 2

4. Write the i) dispersed phase and ii) dispersing medium in:
a) shaving cream b) milk of magnesia. 2

5. Who proposed the Five Kingdom Classification? On what basis are the organisms classified into five kingdoms (three points). 2

6. a) Distinguish between displacement and distance covered by a body in given time. Write any two differences?
b) A body has a mass of 10kg on the surface of earth. What will be its weight when taken to the center of the earth? 3

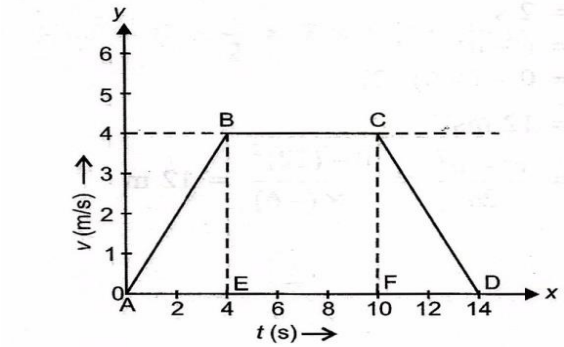
7. a) What is the acceleration of a body moving with uniform velocity in a straight line?
b) A car is moving at a uniform speed of 72km/h. The driver sees a child at a distance of 50m. He applies brakes to stop the car just in front of the child. Calculate the acceleration of the car. 3

8. Study the given graph and answer the following questions. 3

a) Which part of the graph shows accelerated motion?

b) State the type of motion represented by BC and CD.

c) Calculate the distance travelled by the body in first 10 seconds of journey graphically.



9. a) When a sailor jumps out of boat in forward direction the boat moves backward. Explain the reason for this observation and state the Newton's law governing this observation.

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

10. a) What is meant by concentration of a solution?

b) A solution contains 30g of sugar dissolved in 370g of water. Calculate the concentration of this solution. 3

11. a) Why do clothes take longer time to dry during rainy season?

b) Melting points of three substances A, B, C are 50^oC, 175^oC and 80^oC respectively. Arrange them in the decreasing order of the intermolecular force of attraction in each of them. Give reason for your answer.

OR

a) Identify the physical and chemical changes from the following:

i) Heating the mixture of iron and sulphur

ii) Dissolution of salt in water

iii) Ripening of fruits

b) Write your observation when the following process takes place:

i) A saturated solution of Potassium chloride at 60^0C is allowed to cool at room temperature.

ii) Dilute Sulphuric acid is added to a mixture of iron filings and sulphur powder.

iii) A mixture of iron filings and sulphur powder is heated strongly. 3

12. Niba found that woollen garments which she kept last year, damaged by moths and mildew. Sana, her friend suggested that she should store woollen garments along with naphthalene balls.

a) What is the use of naphthalene balls in storage?

b) Why do naphthalene balls disappear after sometime?

c) What are the values shown by Sana? 3

13. Give reason for the following:

a) Cells of fungi and bacteria can exist in hypotonic media without bursting.

b) Lysosomes are a kind of waste disposal system of the cell.

c) Mitochondria are able to make some of their own proteins. 3

14. Epidermal cells on the aerial parts of the plant secrete a waxy layer on their outer surface.
    a) Mention any two functions of this waxy layer in the plants.
    b) How epidermal cells of roots are modified for performing the function of water absorption? 3

15. Identify the type of tissue present in the following locations :
    a) Lining of the mouth
    b) Below the skin
    c) Between the skin and muscles
    d) Spinal cord
    e) Lining of kidney tubule
    f) Between the muscles and bones

OR

Name different types of White blood corpuscles. What type of matrix is found in blood? 3

16. a) State Newton's second law of motion. Derive a relation between force acting on a body and the acceleration produced.
    b) A ball is falling freely from a tower of height 5m. How much momentum does it transfer to the floor if its mass is 500g?

OR

    a) State and derive law of conservation of momentum.
    b) A body of mass 2kg, initially moving with a velocity of 10m/s, collides with another body of mass 5kg at rest. After collision velocity of first body becomes 1m/s. Find the velocity of second body. 5

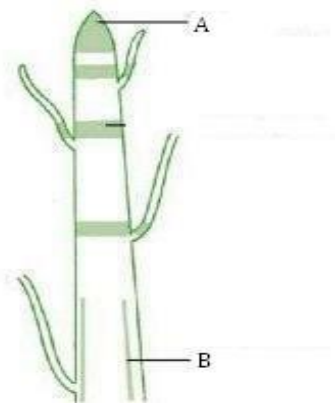
17. a) Differentiate between G and g. Write any two differences.
    b) Is the value of g same everywhere on the earth? Reason out.
    c) Differentiate between mass and weight of a body. Write any two differences. 5

18. a) Classify the following into elements, compounds and mixtures.
        i) Sulphur ii) Calcium hydroxide iii) air iv) Magnesium oxide.
    b) Tyndall effect can be observed when sunlight passes through the canopy of dense forest. Explain how this occurs?
    c) How is crystallization better than evaporation? (Any two points) 5

19. Boiling point of alcohol is 80^oC and that of water is 100^oC.
    a) Explain the separation technique used to separate them from a mixture?
    b) Which liquid will be separated first and which will be left behind?
    c) Draw a neat labeled diagram to show the apparatus and the set up used in this process. 5

20. a) Draw a neat diagram of an animal cell and label the following cell organelles :
        (i) The organelle which is the site of protein synthesis.
        (ii) The organelle involved in the lysosome formation.
        (iii) The organelle which releases energy currency of the cell.
        (iv) The organelle which plays central role in cellular reproduction.
    b) Mention any two differences between cell wall and a cell membrane. 5

21. The diagram given below shows the location of meristematic tissue in the plant body.



a) Identify the type of meristematic tissue found in the regions marked as A and B.
b) State the role of A and B in plants.
c) List any four characteristic features of the cells found in the meristematic tissue 5

SECTION B

22. When a body is immersed in a liquid, name the two forces acting on it and state their direction of action. 2

23. a) Define density and write an expression for it.
b) What is the SI unit of density? 2

24. State any two precautions that you would take while preparing the temporary stained mount of onion peel . 2

25. You are given permanent slides of parenchyma and sclerenchyma for observation under microscope. How would you distinguish between parenchyma and sclerenchyma on the basis of cell wall and intercellular spaces? 2

26. You are provided two samples A and B, such that one of them is a mixture of Iron and Sulphur and the other is powdered iron sulphide. How will you make out which is a mixture and which is a compound when you have no equipment? 2

27. Egg albumin in water is a colloidal solution. State any two observations which you will make to conclude that it is a colloidal solution. 2

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