LPS.

# SUMMATIVE ASSESSMENT – I, 2015-16
## SCIENCE / Class – IX

Time Allowed : 3 hours                                   Maximum Marks : 90

General Instructions :

1. The question paper comprises of two Sections, A and B. You are to attempt both the sections.
2. All questions are compulsory
3. All questions of Section-A and all questions of Section-B are to be attempted separately.
4. Question numbers 1 to 3 in Section-A are one mark questions. These are to be answered in one word or in one sentence
5. Question numbers 4 to 6 in Sections-A are two marks questions. These are to be answered in about 30 words each.
6. Question numbers 7 to 18 in Section-A are three marks questions. These are to be answered in about 50 words each
7. Question numbers 19 to 24 in Section-A are five marks questions. These are to be answered in about 70 words each.
8. Question numbers 25 to 33 in Section-B are multiple choice questions based on practical skills. Each question is a one mark question. You are to select one most appropriate response out of the four provided to you.
9. Question numbers 34 to 36 in Section-B are questions based on practical skills. Each question is of two marks.

## SECTION-A

1   Identify the part marked 'A' in the diagram.                                1
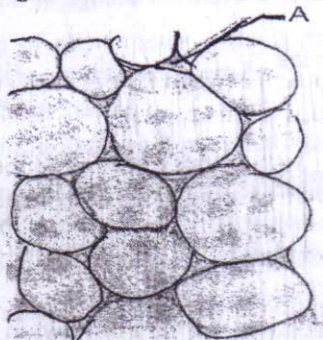


2   What do the following devices measure in a car ?                            1
    (i)    Odometer        (ii)    Speedometer

3   Identify the nature of forces that are acting on a trolley which is being pushed but it does not move.   1

4   Air is considered a mixture and not a compound. Explain.                    2

5   How does endocytosis process help an organism like amoeba ?                 2

6   An object is thrown vertically upwards and rises to a height of 10 m. Calculate the velocity with, which   2
the object was thrown upwards.

7   Differentiate between miscible and immiscible liquids. Give an example of each.   3

8   Define :(a)   Compressibility (b)   Rigidity (c)   Fluidity                  3

9   (a)   Give an example where change in physical state occurs by change in pressure.   3
    (b)   State two factors which determine the rate of diffusion of a liquid in another liquid.

10  Draw the diagram of an animal cell and label the following :                 3
    (i)    factory of ribosomes.        (ii)    powerhouse of cells.
    (iii)    thin and elastic covering of the cell.    (iv)    director/brain/control centre of the cell.

11  (a)   State the difference between tendon and ligament.                      3
    (b)   Give the function of adipose tissue.

12  On what factors do the magnitudes of the following physical quantities depend?   3
    (i)    Momentum        (ii)    Force.        (iii)    Inertia.

13  Differentiate between mass and weight. (Three points)                        3

14  A car acquires a velocity of 72 km per hour in 10 seconds starting from rest. Find :
    (a) the acceleration  (b) the distance travelled in this time and   (c) the average velocity.

15  (i)    State the condition under which the magnitude of average velocity of an object is equal to its   3
    average speed.
    (ii)   Mention the type of motion exhibited by a freely falling body.
    (iii)  Explain giving one example a situation in which a body has a certain average speed but its
    average velocity is zero.

16  The Newton's second law of motion is often seen in action in our everyday life.  Give three   3
    experiences of your own.

17  Rajesh learned that the nature in itself has balance and almost everything in nature is recycled. It is   3
    we humans who are disturbing the natural balance and degrading environment by our irrational
    activities.  Rakesh decided that when he would grow up he would develop techniques by which
    increase in food production can be done without overexploiting the natural resources.
    (i)    What is meant by sustainable agriculture?
    (ii)   How can it be achieved so that the natural biological cycles are not disturbed?
    (iii)  List two values that Rakesh wants to imbibe among citizens.

18  "For improvement in crop production". Crops should be resistant to biotic and abiotic factors.   3
    Mention three biotic and three abiotic factors which affect the crop production.

19  Differentiate between physical and chemical change in three points.  Classify the following as physical   5
    or chemical change –
    (a)    Water freezes to form ice.          (b)    Sugar is dissolved in water
    (c)    Burning of paper.                    (d)    Rusting of iron.

20  (a)    List out three differences between Evaporation and Boiling.                                   5
    (b)    Why perspiration keeps our body cool?

21  (a) Define tissue.  What is the importance of tissues in multicellular organisms?                   5
    (b) Are plants and animals made of same types of tissues? If no, then. Write three points of difference.

22  State the universal law of gravitation.  Derive the equation for it.  Define 'G' the universal gravitational   5
    constant and write its SI unit.

23  Explain the following phenomena on the basis of Newton's Laws of Motion :                          5
    (i)    Falling of buildings during an earthquake.
    (ii)   Shattering of car windows due to a bomb blast.
    (iii)  Cell phone breaks into pieces on falling from a table.

24  How maximum utilisation of available resources is ensured in composite fish farming? Mention its   5
    limitation. Discuss how this limitation of composite fish culture can be overcome?

SECTION – B

25  Four students were given 2 mL each of different food samples in test tubes.  They added 4 drops of   1
    conc. hydrochloric acid in each test tube.  They observed that in one sample the colour of the solution
    became pink.  This means :
              (a)    The sample which turned pink is adulterated
              (b)    The samples which didn't turn pink are adulterated
              (c)    The sample which turned pink is not adulterated.
              (d)    None of the samples is adulterated.

26  A student added two drops of iodine solution to a given rice extract in test tube A.  Another student   1
    added a little rice extract to iodine solution in test tube B. they would then observe.
              (a)    a change in colour to blue black in test tube A but not in test tube B
              (b)    a change in colour to blue black in test tube B but not in test tube A.
              (c)    a change in colour to blue black in both test tubes A and B.
              (d)    no change in colour in any of the test tubes.

27  Iron sulphide and a mixture of iron filings and sulphur powder were taken in different china dishes.  1
    Which of the following observations is correct?
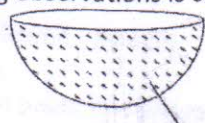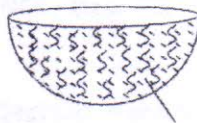


              Iron sulphide        Iron filings + sulphur

(a)     Both are heterogeneous.
(b)     Both are homogeneous.
(c)     Iron sulphide is homogeneous but the mixture of iron filings and sulphur is heterogeneous.
(d)     Iron sulphide is heterogeneous while the mixture of iron filings and sulphur is homogeneous.

28  Sample 'X' is a mixture of iron filings and sulphur and sample 'Y' is the substance obtained by heating   1
    sample 'X' strongly.  Sample 'X' and 'Y' are separately shaken with carbon disulphide in two different
    test tubes.  Which of the following is the correct set of observations?
            (a) 'X' is insoluble and Y is partly soluble.       (b) 'X' is partly soluble and Y is insoluble.
            (c) 'X' is soluble and Y is partly soluble.         (d) 'X' is insoluble and Y is soluble.

29  Burning of magnesium results in the formation of magnesium oxide.  On adding water to it, it will turn:   1
            (a) Blue litmus to red.                             (b) Red litmus to blue.
            (c) Blue litmus and red litmus do not show any change.   (d) None of the above.

30  While preparing a temporary mount of onion peel, cells are stained to :                                   1
            (a) Highlight the cell organelles                   (b) Make the cells turgid
            (c) Moisten the cell                                (d) Help in cell division

31  Reena observed a permanent slide of plant tissue under a microscope. She identified the slide as          1
    sclerenchyma. The identifying character of sclerenchyma is :
            (a)     presence of intercellular spaces        (b)    presence of thick cell wall
            (c)     presence of stored food                 (d)    presence of chlorophyll

32  Rakhi took the mixture of sand, ammonium chloride and common salt in a china dish. She covered the        1
    china dish with an inverted glass funnel and plugged in a little cotton at the opening of the stem of the
    funnel. On heating the mixture white fumes evolved. These fumes are of :
            (a) sand          (b) ammonium chloride         (c) common salt        (d) carbon dioxide

33  A student performed the experiment "To establish relationship between weight of a rectangular             1
    wooden block lying on a horizontal surface and minimum force required to just move it using a spring
    balance". If the weight of the given wooden block is nearly 200g wt and three known weights of 100g
    wt each are to be successively placed on the wooden block to take three more readings, then which
    one of the following spring balances, available in the laboratory would you select for the best results in
    the experiment ? It is known that a force of 90g wt is required to just move the block on the surface.
            (a) Range 0-100g wt ; Least count 1.0g wt      (b) Range 0-200g wt ; Least count 2.0g wt
            (c) Range 0-250g wt ; Least count 2.0g wt      (d) Range 0-500g wt ; Least count 5.0g wt

34  A student prepared three solutions - a solution of alum, soil and milk in water.  Can you distinguish     2
    between the three on the basis of transparency and stability? Explain.

35  In an experiment to determine the boiling point of water, state reason for the following precautions:-     2
            (i)     The bulb of thermometer should not touch the sides of beaker.
            (ii)    While boiling water, pumice stones should be added.

36  A group of students recorded the following readings while performing the experiment to calculate the      2
    percentage of water absorbed by raisins. Mass of dry raisins = 2.0 g
    Mass of raisins after absorbing water = 3.0 g.
    Calculate the percentage of water absorbed by raisins
    Later on they placed swollen raisins in concentrated solution of sugar.  What will be their observation?