

FRIDIAN SCHOOL

SUMMATIVE ASSESSMENT - I, 2016-17

SCIENCE - SET A

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

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| .1 | Define plasmolysis. | 1 |
| 2 | In which case the magnitude of acceleration will be greater: when a car starts from rest or when the brakes are applied on it suddenly? | 1 |
| 3 | It the mass of a body and the force acting on it are both doubled, what happens to its acceleration ? | 1 |
| .4 | Define centrifugation. Write its any one application. | 2 |
| .5 | When observed under microscope, small pores are seen in the epidermis of the leaf. What are these pores called? Write two functions of these pores. | 2 |
| .6 | State Universal law of gravitation. Name the scientist who gave this law. | 2 |
| 7 | Differentiate between homogeneous and heterogeneous mixtures. Classify the following mixtures as homogeneous and heterogeneous. | 3 |
| | (i) Air (ii) Alloy | |

(iii) Blood (iv) Butter

- 8 List two conditions required to liquefy gases. Can these factors determine the state of a substance? How? 3
- 9 What do you observe when ice cubes are put in a beaker containing water? Give reason for your observation. 3
- 10 Draw the diagram of smooth muscle cell and a sperm cell. Comment on the variety of shapes of cell by taking two more examples. 3
- 11 Draw neat and labelled diagrams of the various types of muscular tissues to show the difference between them. 3
- 12 Two objects, A and B are of mass M and $2M$ with velocity V , $V/2$ respectively. Which one will have greater inertia and greater momentum? Give reason for your answer. 3
- 13 A particle weighs 120 N on the surface of the earth. At what height above the earth's surface will its weight be 30 N ? Radius of earth = $6,400\text{ km}$. 3
- 14 (a) Is it possible that the train in which you are sitting appears to move while it is at rest? Justify your answer. 3
(b) Can the train appear to be at rest while moving? Justify your answer.
- 15 (a) State Newton's First Law of Motion. 3
(b) The mud particles sticking on the rim of a bicycle wheel leave the rim of the wheel tangentially. When it starts moving. Explain.
- 16 A particle moves over three quarters of a circle of radius $r\text{ cm}$. Calculate the magnitude of its distance and displacement. 3
- 17 Surbhi alongwith her younger sister Vibha loved going to field with parents. She helped taking out certain plants from the field using khurpi. She told Vibha that only selected plants need to be uprooted. Vibha asked her why only specific plants need to be pulled at? Surbhi explained that these were weeds which are not desired with the crop. 3
(i) Why is it essential to remove weeds?
(ii) Name two common weeds.
(iii) What values are exhibited by Surbhi here?
- 18 (a) Name the major nutrient which we get from fish. 3
(b) Mention the two ways of obtaining fish.
- 19 A student was given the mixture of Iron filings and sulphur. He was told to heat it and observe the following - 5
(a) What is the colour of the compound formed?
(b) Write the effect of magnet on it.

- (c) Write the action of carbon disulphide on it.
- (d) Describe the effect of adding dilute hydrochloric acid to it. Identify the gas and write its two properties.
- 20 Give reasons for the following taking into account the rate of 5
evaporation :
- (a) While putting clothes for drying up we spread them out.
- (b) Clothes dry up faster when spread near a heater.
- (c) Clothes take very long to dry on a rainy day.
- (d) We feel cool when we pour acetone on our palm
- (e) We wear cotton clothes in summer.
- 21 What is the composition of plasma membrane? Why the plasma membrane is called a 5
selectively permeable membrane? How does the movement of substances in and out of the cell take place?
- 22 (a) Write the formula to find the magnitude of gravitational force between earth and an 5
object on earth's surface.
- (b) Derive how does the value of gravitational force 'F' change between two objects when the :
- (i) distance between them is reduced to half, and
- (ii) mass of one object is increased four times
- 23 If you are trying to push a heavy box on a horizontal surface list various forces acting on the box. State 5
the condition under which this box will start sliding on the surface. How will the magnitude of applied force required to move the box change if :
- (i) weight of the box is increased
- (ii) the surface on which the box is placed is made more rough ?
- 24 How maximum utilisation of available resources is ensured in composite fish farming? 5
Mention its limitation. Discuss how this limitation of composite fish culture can be overcome?

SECTION - B

- 25 Four samples of arhar dal (tuvar dal) were taken in four test tubes with some water in each 1
and labelled as A, B, C and D. A few drops of following were added to these test tubes :
alcohol to test tube A, safranin to test tube B, conc. hydrochloric acid to test tube C and iodine
solution in test tube D. We would be able to confirm adulteration of dal with metanil yellow
in test tube :
- (a) A (b) B (c) C (d) D
- 26 On adding iodine solution to white of an egg, the observation of a student will be that the 1
yellow-brown colour of iodine has changed to :
- (a) pink colour. (b) blue - black.
- (c) no change. (d) brick red colour.

- 27 When carbon disulphide is added to a mixture of iron filings and sulphur powder : 1
 (a) Sulphur first dissolves and then reappears in its solid state.
 (b) Iron filings settle down.
 (c) Clear yellow solution is obtained.
 (d) All of the above.
- 28 Mixture of Iron filings and sulphur was mixed in carbon disulphide. Sulphur dissolved in carbon disulphide to form yellow coloured solution. Sulphur can be recovered from its solution by : 1
 (a) distillation (b) filtration
 (c) sublimation (d) evaporation
- 29 Take a small quantity of dil sulphuric acid in a conical flask and add a few granules of zinc to it. Bring a wet blue and red litmus paper near the mouth of the flask one by one. We will observe that : 1
 (a) Blue litmus turns red
 (b) Red litmus turns blue
 (c) Colour of blue and red litmus paper does not change
 (d) Colour of both the blue and red litmus paper change.
- 30 A teacher instructed the students to take the thin and transparent skin from the convex surface of the scale leaf of onion and dip the material in stain solution so that it absorbs the colour. The stain which is used to stain colour the plant tissue is :- 1
 (a) Methylene blue (b) Safranin
 (c) Iodine (d) Any one can be used
- 31 You are shown two slides of plant tissues - parenchyma and sclerenchyma. You can identify the sclerenchyma by the : - 1
 (a) location of nucleus (b) thickness of cell wall
 (c) size of cells (d) position of vacuoles
- 32 On sublimation of ammonium chloride, salt and iron-filings, the component found to stick to the inverted funnel is / are : 1
 (a) ammonium chloride
 (b) iron filings
 (c) salt
 (d) water vapours
- 33 The statement which is true for frictional force is : 1
 (a) It is independent of weight of the object
 (b) It is in the direction of the applied force
 (c) It is independent of the nature of surfaces in contact
 (d) It opposes the relative motion between the objects
- 34 How would you confirm in your school laboratory whether the given solution is a true solution? List two tests. 2

- 35 In an experiment to determine the boiling point of water, the stop watch used, to note down the temperature of water at different intervals of time, has 20 divisions between 0 to 10s marks. Find the least count of the stop watch. How does noting down temperature of water at different time- intervals help in confirming that temperature has reached boiling point? 2
- 36 List the necessary steps in conducting the experiment of determining the percentage of water absorbed by the raisins? 2

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