

## SUMMATIVE ASSESSMENT - I, 2014

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 are **two marks** questions.

### SECTION-A

- 1 Which structure do the cork cells resemble as observed by Robert Hooke ? 1
- 2 The displacement - time graph of a body is parallel to time axis. What will you infer about the velocity of the body ? 1
- 3 If mass of a body is doubled, what happens to its acceleration under a given force ? 1

- 4 ✓ What do you mean by dispersed phase and dispersing medium ? Give an example each of (i) liquid in gas (ii) liquid in solid solutions. 2
- 5 ✓ Name the tissue in animals which carries out similar function as the following tissues do in plants : 2  
 (1) Epidermis  
 (2) Vascular Bundles  
 Also, write their function.
- 6 ✓ (a) Why the value of 'g' is greater at the poles than at the equator ? 2  
 (b) What is the value of 'g' at the poles ?
- 7 ✓ Explain the process of sublimation with the help of a diagram. 3
- 8 ✓ In cities drinking water is supplied from water works to your home. Draw a flow diagrams of water works for supply of pure drinking water. 3
- 9 ✓ By taking into account the three states of the matter comment on the following : 3  
 (a) rigidity (b) compressibility (c) fluidity
- 10 ✓ Give two features of each of the following tissues : 3  
 (a) Tissue that stores fat in our body.  
 (b) Tissue that receives and transmit impulse in our body.  
 (c) Tissue that controls contraction and relaxation of blood vessels.
- 11 ✓ What is the significance of : 3  
 (i) presence of cell sap in vacuoles  
 (ii) presence of SER in liver cells  
 (iii) presence of ribosomes on RER
- 12 ✓ The velocity of a body of mass 10 kg increases from 4 m/s to 8 m/s when a force acts on it for 2 s. 3

- (a) Find the momentum of the body before the force acts and after the force acts.
- (b) Find the gain in momentum per second.
- (c) Calculate the value of the force.

13 A ball is dropped from the edge of a roof. It takes 0.1 sec to cross a window of height 2.0 m. Find the height of the roof above the top of the window. 3

14 A boy on a 78.4m high cliff drops a stone. One second later, he throws another stone downwards with some speed. The two stones reach the ground simultaneously. Find the speed with which the second stone was thrown. 3

15 Calculate the ratio of momentum, when, 3

- a) Velocity of an object is doubled
- b) Mass of an object is halved
- c) Both mass and velocity are increased by three times.

16 The brakes applied to a train produce an acceleration of  $5 \text{ m/s}^2$  in the opposite direction to the motion. If the train takes 6s to stop after the application of brakes, calculate the distance it travels during this time. 3

17 Teacher mentioned about the organisms which enrich the soil with nutrients. Rahila was curious to know more about them so she searched internet and came to know about Rhizobium bacteria and cyanobacteria. 3

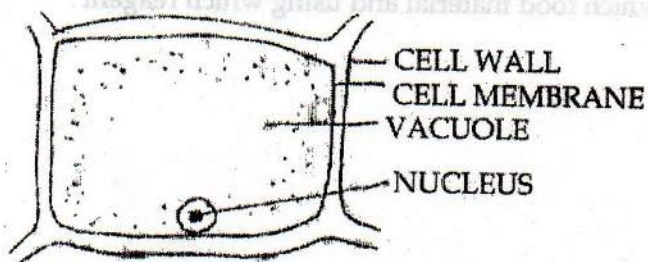
- (i) What are bio-fertilizers ?
- (ii) Explain how any one of the organism mention above enrich the soil with nutrients.
- (iii) Write two value are shown by Rahila here.



- 18 Mention three desirable agronomic characters for crop improvement. 3
- 19 (a) Compare metals and nonmetals based on their physical properties (any four points). 5  
(b) What are metalloids. Give two examples.  
(c) Identify metals from the following – boron, sodium, mercury, carbon.
- 20 Give reasons for the following : 5  
(a) After rains wet roads dry quickly.  
(b) We prefer to wear cotton clothes during summer.  
(c) Trees acquire more leaves during summer.  
(d) On pouring acetone on our palm we feel cool.  
(e) People sprinkle water on his roof on a hot summer day.
- 21 (i) Define tissue. What is the utility of tissues in multicellular organisms ?  
(ii) Are plant and animals made of same types of tissues ? If no, then. Write three points of difference. 5
- 22 (a) A bar of metal has a mass 200 g and a certain weight Mass remains the same when weighted at equator but weight decreases. Why ? 5  
(b) What will be the change in weight on poles as compared to that at equator ?  
(c) Where is the value of 'g' equal to zero on earth ?  
(d) What will happen if there is no acceleration due to gravity ?
- 23 (a) Write the equations of motion of an object when it is thrown vertically upward. 5  
(b) Which force accelerates a body during this motion ?  
(c) What is the average value of 'g' on earth.
- 24 Explain the desirable traits obtained after cross-breeding indigenous and exotic breeds of poultry birds. 5

SECTION - B

- 25 The presence of starch can be shown in which food material and using which reagent : 1
- (a) apple juice and Iodine solution
  - (b) potato extract and safranin
  - (c) apple juice and safranin
  - (d) potato extract and Iodine solution.
- 26 Rahul spilled over a yellow chemical on a table cloth. The table cloth turned blue black. The chemical could possibly be : 1
- (a) dil HCl
  - (b) Metanil yellow
  - (c) Benedict's Reagent
  - (d) Iodine solution
- 27 In a mixture of iron filings and sulphur, colour of sulphur powder is : 1
- (a) pale yellow
  - (b) blue
  - (c) green
  - (d) reddish brown
- 28 When iron filings and sulphur powder are heated in a test tube - 1
- (a) a colourless gas with smell of rotten eggs is produced.
  - (b) a black mass is produced.
  - (c) a yellow powder is formed.
  - (d) Both (a) and (b) are correct.
- 29 During the reaction between iron and copper sulphate, the copper sulphate taken is in : 1
- (a) solid state
  - (b) molten state
  - (c) aqueous solution form
  - (d) in non-aqueous solution
- 30 The part that has been incorrectly labelled in the diagram is : 1



- (a) Nucleus (b) Vacuole  
(c) Cell wall (d) Cell membrane

31

Dendrites are found in :

- (a) Striated muscles (b) nerve cells  
(c) parenchyma (d) sclerenchyma

1

32

The type of a mixture of a solid and a liquid which can be separated by the process of filtration is :

- (a) homogeneous (b) suspension  
(c) saturated (d) colloidal solution

1

33

Net force acting on a body at rest is :

- (a) zero (b) depends on mass  
(c) depends on its weight (d) all of the above

1

34

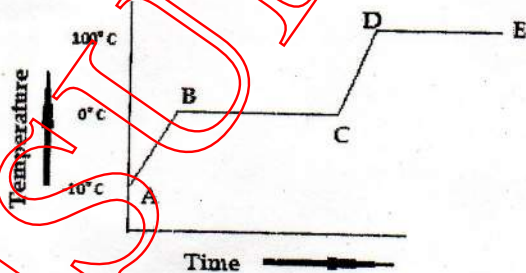
Dipti was asked to prepare four separate mixtures in four beakers A, B, C and D by mixing sugar, fine sand, thin paste of starch and chalk powder respectively in water and then categorise each as stable or unstable. What will be correct categorization?

2

35

Study the temperature-time graph give below. This graph shows heating of ice from  $-10^{\circ}\text{C}$  to water at  $100^{\circ}\text{C}$ . Represent the change of state on heating. During change of state where does the heat energy go? What is this heat called?

2



36

Prakash soaked 6g raisins in water and after 10 hours found that their mass has become 9g. Determine the percentage of water absorbed by raisins.

2