Timothy

# SUMMATIVE ASSESSMENT – I, 2016-17

## SCIENCE

## Class – IX

**Time Allowed : 3 hours**
**Maximum Marks : 90**
**General Instructions :**

(i) The question paper comprises of **three Sections, A, B and C.**
(ii) **All** questions are **compulsory.**
(iii) There is no choice in any of the questions.
(iv) **All** questions of **Section-A, Section-B and Section-C** are to be attempted in separate answer sheets.

## SECTION-A BIOLOGY

1 Cell Membrane is made up of organic molecules. Name them. 1

2 Mention the functions of the various elements of xylem. 2

3 What are living organisms made up of? Why are they called structural and functional unit of life? 3

4 (a) Name the animal tissue which is present in the larynx. 3
(b) Write the chemical constituents of this tissue.
(c) What functions does this tissue perform ?

5 Government was setting up a school in the village. In the panchayat, Vinod, who had just completed his class X, suggested that the children should be taught about different agricultural practices and use of modern technology in it. Sarpanch liked the idea and arranged for the same. 3
(i) Children were taught that wheat cannot be grown in kharif season. Why ?
(ii) Mention the desirable agronomic character for cereals.
(iii) Do you think that Vinod did the right thing by making the suggestion to sarpanch ?

6 Mention the three preventive and control measures used before storage of grains. 3

7 What is the importance of cell wall in a plant cell? What happens to a plant cell when it is kept in a hypotonic solution? What is meant by plasmolysis? 5

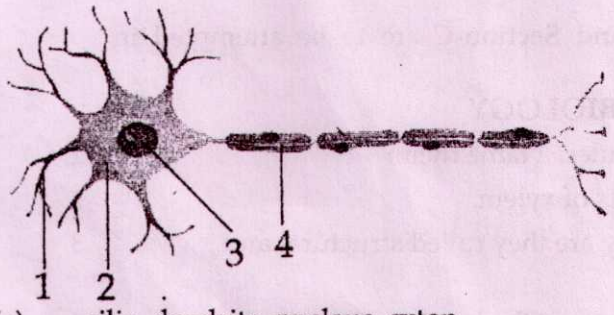
8 Define animal husbandry. Discuss the feeding, breeding and controlling the diseases of cattle population in dairy farming. 5

9 The steps of the procedure to be followed for testing the presence of adultarent metanil yellow in a dal are given below : 1
(A) Take 2 mL of this sample soluton is a test tube
(B) The solution turns pink
(C) Soak the sample dal in a beaker by adding distilled water
(D) Add a few drops of conc. HCl in the test tube
The correct sequence of these steps would be :
(a) (A), (C), (D), (B) (b) (C), (A), (D), (B)
(c) (C), (D), (A), (B) (d) (A), (D), (C), (B)

10 When a temporary mount of a thin onion peel is observed under a compound microscope, you see : 1

(a) continuous layer of flat cells without intercellular spaces
(b) rectangular cells with intercellular spaces
(c) rectangular hollow cells with intercellular spaces
(d) flat, hollow cells with intercellular spaces

11 The students were shown the permanent slide of a nerve cell. They were asked to draw the diagram of the nerve cell. The correct labelling is : 1




(a) cilia, dendrite, nucleus, cyton
(b) axon, cyton, dendrite, nucleus
(c) dendrite, cyton, nucleus, axon
(d) axon, cytoplasm, nucleus, dendrite

12 A student recorded the mass of dry raisins as 4.0 g and the mass of raisins after soaking as 7 g. Calculate the percentage of water absorbed by raisins. Mention one application of the phenomenon of osmosis in plants. 2

## SECTION-B CHEMISTRY

1 How evaporation is different from boiling ? Give two points. 2

2 (a) Differentiate between simple distillation and fractional distillation. 3
(b) What is the function of beads in fractionating column used in fractional distillation ?

3 How does pressure help in liquification of gases ? Name two liquefied gases used in daily life. 3

4 (a) How can we say that sugar is a pure substance whereas milk is not ? 3
(b) Which of the following materials fall in the category of a pure substance ?
(i) Ice (ii) Iron (iii) Wood (iv) Brick

5 Identify the physical and chemical changes from the following : 5
(a) Heating the mixture of iron filings and sulphur.
(b) Ripening of fruits
(c) Dissolution of salt in water
(d) Rusting of iron-chair.
(e) Making egg omelets

6 State any three characteristics of the particles of matter. 5
Which of the following are matter?
table, oxygen, affection, milk, cold, thirst, salt.

7 A translucent solution is obtained on dissolving salt in water, starch in water, sugar in water, or soil in water on stirring. Choose the correct option : 1

(a) salt in water (b) Starch in water
(c) Sugar in water (d) Soil in water

8 On strongly heating grey coloured iron filings with yellow coloured sulphur powder, the colour of iron sulphide compound formed is : 1

(a) grey (b) yellow
(c) yellowish grey (d) black

9 Himanshu obtained a black mass on heating a mixture of iron filings and sulphur powder. To separate iron from sulphur he rolled over the magnet over the black mass. He observed that the : 1

(a) iron particels are attracted towards the magnet.
(b) iron sulphide clings to the magnet.
(c) iron sulphide does not cling to the magnet as iron losses its properties.
(d) none of these.

10 The colour of hydrated copper sulphate is : 1

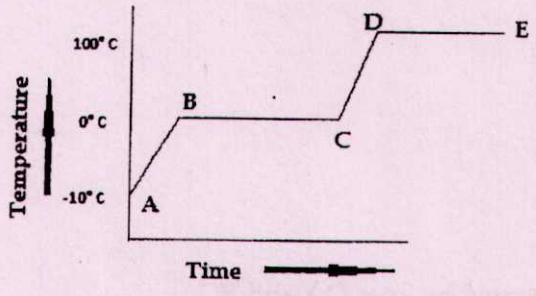
(a) blue (b) white
(c) green (d) yellow

11 Ammonium chloride sublimates on heating. It means that on heating ammonium chloride : 1

(a) first melts at its melting point and then changes into a gas at its boiling point.
(b) directly changes from solid to vapours without melting .
(c) loses its water of crystallization.
(d) condenses from the gaseous state to the liquid state

12 How are solution, suspension and colloid different from each other in terms of transparency and scattering of beam of light. Explain in tabular form. 2

13 Study the temperature-time graph given below. This graph shows heating of ice from $-10°C$ to water at $100°C$. Identify the part of graph which represents the change of state on heating. During change of state where does the absorbed heat energy go ? 2



## SECTION-C PHYSICS

1 Name the device that is fitted in automobiles to show the distance travelled by them. 1

2 How are action – reaction forces related in magnitude and direction ? 1

3 Give reason-stone falls towards the earth but earth do not rise towards the stone. 2

4 Define inertia. Why some of the leaves may get detached from a tree if we vigorously shake its branch. 3

5 (i) Find the value of the acceleration due to gravity at a height of 12, 800 km from the surface of the earth. Earth's radius = 6400km . 3

(ii) State Newton's law of gravitation and write the mathematical equation describing it.

6 On a position-time graph, draw three lines/curves to represent the motion of an object : 3

(a) remaining at rest.

(b) moving very slowly.

(c) moving very fast.

7 A body of mass 1000 kg moving at a speed of 10 m/s reaches the speed of 50 m/s in 20 s. Calculate the force required to do so. 3

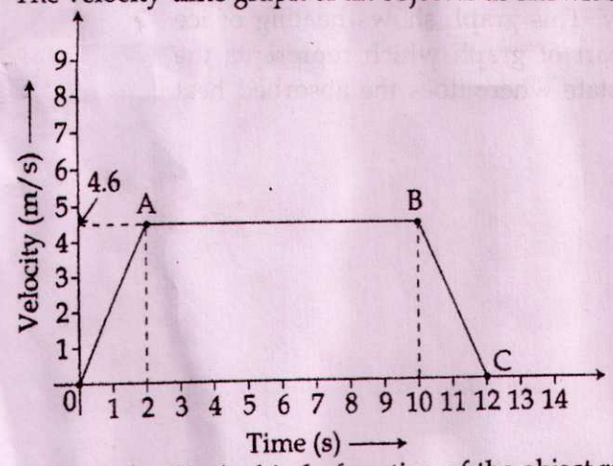
8 A motor cycle moving with a speed of 5 m/s obtains to an acceleration of 0.2 $m/s^2$. Calculate the speed of the motor cycle after 10 seconds, and the distance travelled by it in this time. 3

9 (a) Prove that if the earth attracts two bodies placed at the same distance from the centre of earth. With equal force; then their masses will be the same. 5

(b) Mathematically express the acceleration due to gravity in terms of mass of the earth and radius of earth.

(c) Why is 'G' called a universal constant ?

10 The velocity-time graph of an object is as shown below. 5




(a) Identify the kind of motion of the object represented by lines OA and BC.

(b) With what velocity the object is moving at t = 8 seconds ?

(c) Calculate the acceleration of the object in the following cases :

(i) Between the third and tenth second.

(ii) During the last two seconds.

11 In an experiment to establish the relationship between weight of a rectangular wooden block lying on a horizontal table and the minimum force required to just move it using a spring balance, the least count of the spring balance used is 0.5 gwt. When the wooden block started moving the pointer was at 56 mark. The force at this point is : 1

(a) 5.6 gwt (b) 28 gwt

(c) 2.8 gwt (d) 44 gwt

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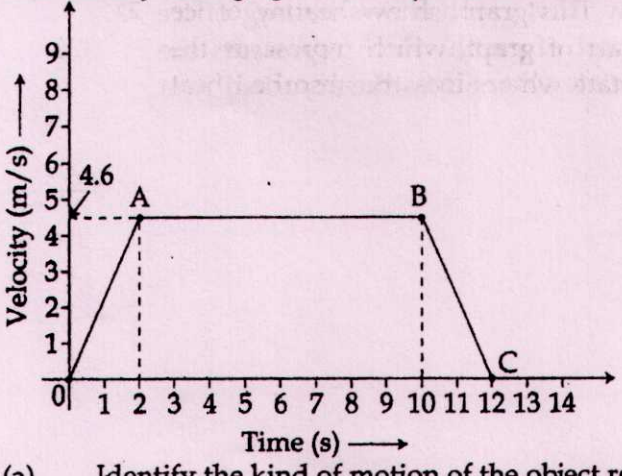


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