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No. of Printed Pages : 8

No. of Printed Questions : 36

SUMMATIVE ASSESSMENT–I, 2016–1

SCIENCE

Time : 3 Hrs. **Grade : IX** **M.M**

General Instructions :

(1) The question paper comprises of **two Sections**, A and B. You are to both the sections.

(2) **All** questions are **compulsory**.

(3) **All** questions of **Section-A** and **all** questions of **Section-B** ar attempted separately.

(4) Question numbers **1** to **3** in **Section-A** are **one mark** questions. The be answered in **one word** or in **one sentence**

(5) Question numbers **4** to **6** in **Section-A** are **two marks** questions. to be answered in about **30 words** each.

(6) Question numbers **7** to **18** in **Section-A** are **three marks** questio are to be answered in about **50 words** each

(7) Question numbers **19** to **24** in **Section-A** are **five marks** questic are to be answered in about **70 words** each.

(8) Question numbers **25** to **33** in **Section-B** are multiple choice quest on practical skills. Each question is a **one mark** question. You ar one most appropriate response out of the four provided to you.

(9) Question numbers **34** to **36** in **Section-B** are questions based o skills. Each question is of **two marks.**

SECTION – (A)

1. Name the process by which CO_2 and O_2 gases get exchanged across the cell and its external environment. 1

2. Give an example of a motion in which acceleration is non – uniform. 1

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

Explain the following giving suitable examples : 2

(a) saturated solution

(b) suspension

Name the following : 2

(a) Tissue that occurs in specific regions of growth

(b) Tissue present at the growing tips of stems and roots.

(c) Tissue at the base of the leaves or internodes on twigs.

(d) Basic packing tissue in the form of a few layers of cells.

The mass of sun is 2×10^{30} kg and that of earth is 6×10^{24} kg. If the average distance between the sun and the earth be $1 \cdot 5 \times 10^{8}$ km, calculate the force of gravitation between them.

(Take $G = 6 \cdot 7 \times 10^{-11}$ Nm^2 kg^{-2}) 2

(a) Define an element.

(b) What is meant by malleability. Name any two substances that are malleable. 3

What is the chemical name of dry ice ? Why is it called dry ice. How is it prepared ? 3

(a) When common salt is dissolved in water, what will be the change in volume and why ?

(b) Write any one similarity among three states of matter.

0. Do all cells in our body look alike in terms of shape, size and structure? Explain with the help of examples. What similarities do they have? 3

1. Write six functions of the epithelial tissue. 3

2. A bullet of mass 10 g is fired with a rifle. The bullet takes 0.004 s to move through the barrel and leaves it with a velocity of 400 m/s. Calculate the force exerted on the bullet by the rifle ? 3

(i) A force of 20 N acts upon a body, whose weight is 9.8 N. What is the mass of the body and how much is its acceleration. ($g = 9.8$ ms^{-2})

(ii) If weight of a body is 50 N. What is its mass ? ($g = 9.8$ ms^{-2}) 3

(a) A scooterist covers a distance of 3 km in 5 minutes. Calculate his speed in : (i) m/s (ii) km/h.

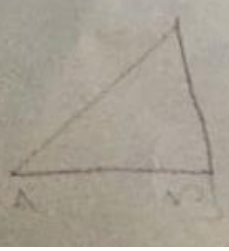
(b) Ramesh observes that at the start of his journey odometer of his car was showing 1080 km and when he reached Meerut it was showing 1330 km. If he took 4 hours to reach Meerut, find average speed of his car in km/h and m/s. 3

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

Name a device that measures distance travelled in automobiles. A body travels a distance of 15 m from A to B and then moves a distance of 20 m at right angle to AB. Calculate the total distance travelled and the displacement. 3

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.

) 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 ? 3

18. State the meaning of sustainable agriculture. Name four scientific practices that you can undertake to obtain higher yield from agriculture. 3

9. Draw a flow diagram of water purification system in water works. Name the processes involved to get the supply of drinking water to your home from water works. 5

0. (a) Comment how evaporation is a surface phenomenon whereas boiling is a bulk phenomenon.

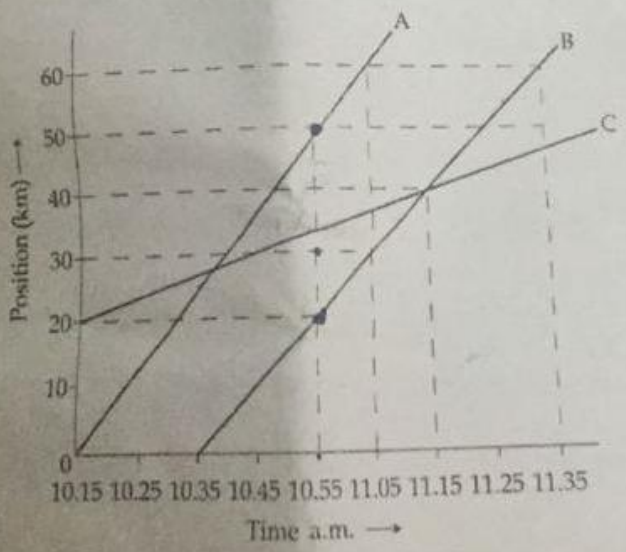
(b) Explain why wet clothes dry faster when we spread them out ? 5

1. What is the composition of plasma membrane ? Why the plasma membrane is called a selectively permeable membrane ? How does the movement of substances in and out of the cell take place ? 5

(a) Differentiate between acceleration due to gravity and universal gravitational constant. Derive a relation between 'g' and 'G'.

(b) State universal law of Gravitation. 5

. The position-time graph of three objects A, B and C in motion is shown below.



(a) Which of the three is travelling fastest ?

(b) Do any of the three objects meet at the same point on the road ?

(c) How far has C travelled at 11 : 15 am ?

(d) Calculate the average speed of object B between 10 : 15 to 11 : 35 am. 5

(e) How much is A ahead of B at 10 : 55 am ?

(a) Name two products obtained in bee keeping.

(b) What are the desirable traits of bee varieties suitable for honey production ?

(c) Give the scientific name of the Italian bee commonly used for commercial honey production.

(d) What is pasturage and how is it related to honey production ? 5

SECTION–(B)

5 g of yellow dal is taken in a test tube and shaken with 5 mL of water. To this a few drops of conc. hydrochloric acid are added. Appearance of pink colour indicates the presence of : 1

(a) starch in the solution

(b) metanil yellow as adulterant

(c) saframine stain

(d) iodine solution

Out of the following steps given below the right step to test the presence of starch in the given food material : 1

) Took the food material in a test tube, and added Iodine powder on it.

) Took the food material in a test tube crushed it and then added Iodine powder.

(c) Took the food material in a test tube, crushed and added Iodine solution

(d) Took the food material in a test tube, diluted it with water, then added dil. HCl.

To prepare iron sulphide a mixture of iron filings and sulphur powder should be heated in : 1

(a) petridish

(b) watch glass

(c) sand bath

(d) boiling tube/china dish

Sulphur powder dissolves in carbon disulphide to form yellow coloured solution but solid sulphur reappears by : 1

(a) evaporation of carbon disulphide

(b) sublimation of sulphur

(c) cooling the solution

(d) distillation

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.

While preparing temporary mount the reagent used to stain animal cel is :

(a) Methyl orange (b) Safranin

(c) Iodine (d) Methylene blue

31. On viewing the nerve cell under a high power of microscope a observed that each neuron has a single long part and mat branched parts. The long and short parts respectively are

(a) axon, dendrites

(b) cytoplasm, nucleus

(c) cyton, nerve endings

(d) axon, cell body

32. A mixture containing (I) Sodium Chloride (II) Campho (III) Ammonium Chloride. Was heated in a china dish. The sul left in the china dish was :

(a) (I) and (II)

(b) (II) and (III)

(c) (I) only

(d) (III) only.

33. Least count of a spring balance can be found by using the fo from the following :

(a) $\frac{\text{Upper reading} - \text{Lower reading}}{\text{Number of divisions between them}}$

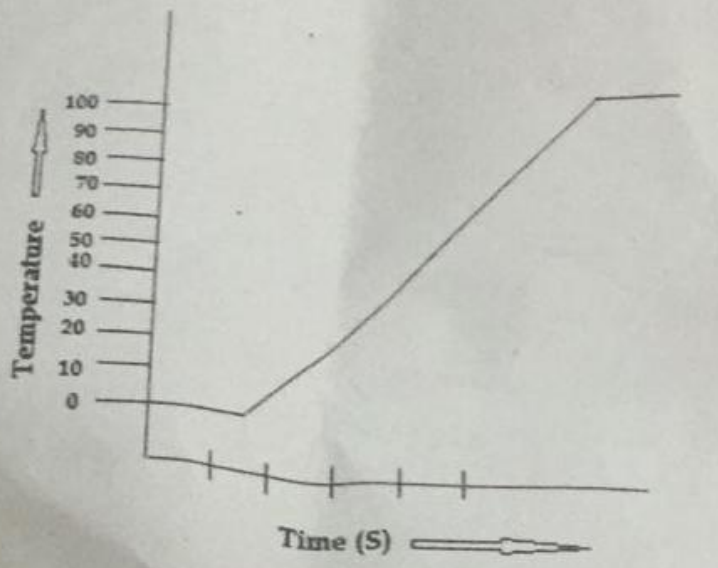
(b) $\frac{\text{Upper reading} + \text{Lower reading}}{\text{Number of divisions between them}}$

(c) $\frac{\text{Number of divisions between them}}{\text{Upper reading} - \text{Lower reading}}$

(d) $\frac{\text{Number of divisions between them}}{\text{Upper reading} + \text{Lower reading}}$

You are given a solution of egg albumin in water. In the laborat how would you confirm that it is a colloidal solution ?

Graph for change of ice to steam is shown below. Observe the cha of state from ice to water and water to steam and write two infere that can be drawn from this graph about these change of state



List the necessary steps in conducting the experiment of determ the percentage of water absorbed by the raisins.