U23FZVI

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. How is a cartilage different from a bone ?   1

2. What is the acceleration of a body moving with uniform velocity ?   1

3. A body has a mass of 10 kg on the surface of earth. What will be its weight when taken to the   1
centre of the earth ?

4. How is the temperature in the Celsius and the Kelvin scale related ? Convert 375 K to Celsius   2
scale.

5. Which stain is used to prepare an onion peel slide? Why do we need a stain to be added ?   2
   safrin

6. What happens to the force between two objects if the mass of one object is tripled. Explain   2
with the help of formula.

7. (a)   Illustrate with an example that physical and chemical changes can takes place together.   3

(b) Which of the following are chemical changes :

    (i)   Mixing of Iron filings and sand

    (ii) Growth of plant

    (iii) Rusting of Iron

    (iv) Freezing of water

8 (a) Melting points of three solids A, B and C are 298K, 310K and 400K respectively. 3
        Arrange these in increasing order of force of attraction between the particles of solid.

   (b) Write full form of (i) L.P.G. (i) C.N.G.

9 Name the process associated with the following :   3

  (a) Milk is churned to separate cream form it.

  (b) Appropriate methods to separate nitrogen from air.

  (c) Fine beam of light enters a dark room through a small hole and illuminates the particles in its path.

10 Classify permanent tissues in plants.   3

11 (a) Differentiate between simple squamous epithelium and stratified squamous epithelium. 3
    (b) A tissue provides support to plants and also stores food. Name the tissue.
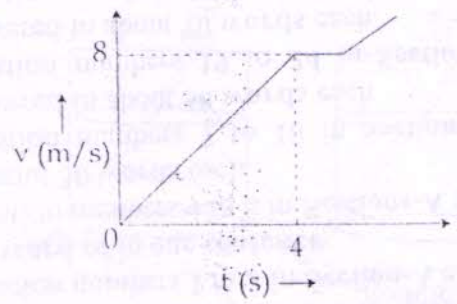   Parenchyme

12 State the equation for position-time relation. Use graphical method to derive this equation. 3
      $s = ut + \frac{1}{2}at^2$.

13 The following velocity-time graph describes the motion of a truck : 3

  (a) Explain the motion of the truck according to the graph.

  (b) Calculate displacement and the acceleration of the truck in 0 to 4 s.

14 A boy drops a ball from a cliff 122.5m high. Find -   3

  (a) How long does it take the ball to fall to the ground.

        5 sec.

(b) How far does it fall in the first 3 seconds?

(c) How fast is it going at the end of 3 seconds? *19.6 m/s.*

15. The ratio of the gravitational force on Neptune to the gravitational force on earth is 9:8. 3
Ramesh weighs 792N on Earth. Calculate his weight on Neptune? ——→ ∧

16. A force of 10N accelerates on object from 15 m/s to 25 m/s in 20 sec. Calculate the mass of the 3
object.

17. Mohit went to vegetable market with his father and saw many varieties of chillies, brinjal, 3
potato and tomatoes. He had some questions in mind. Being a student of class IX answer the
following questions :

   (i) What is the need of producing such different varieties of crop plants ?

   (ii) Name the technique by which these are produced ?

   (iii) Define hybridization.

18. List any three factors that are needed for the varietal improvement in crops. 3

19. (a) Tabulate the differences in the properties of three states of matter. 5

   (b) Why we are able to compress sponge?

20. Differentiate between homogeneous and heterogeneous mixtures. Give an example of each of 5
the following –

   (i) Solid-solid homogeneous mixture

   (ii) Solid-Liquid heterogeneous mixture

   (iii) Liquid – Liquid heterogeneous mixture

21. Write four characteristic features of Parenchyma tissues. How would you classify this tissue 5
based upon its specialized functions ? What are these functions?

22. Sketch velocity-time graphs corresponding to the following descriptions of the motion of an 5
object.

   (a) The object is moving away from the reference point at a constant speed.
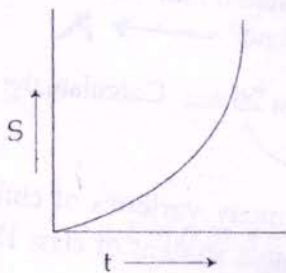
      uniform

   (b) The object is moving away from the reference point at a constant speed for 10 s and
then increases its speed for the next 10 s.

   (c) When a sailor jumps out of boat in forward direction the boat moves backward.
Explain the reason for this observation and state Newton's law governing this observation.
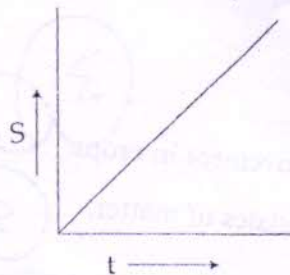
23   Describe the nature of force acting in the following displacement-time graphs : **(5)**

(a)

S ↑ ... t →

(b)

S ↑ ... t →

(c)   Differentiate between 'G' and 'g'.

(d)   Is the value of 'g' same every where on earth ? Reason out.

24   (a) Classify the following elements as macro or micro nutrients in plants.   5

   (i)   Nitrogen   (ii)   Zinc

   (iii) Copper   (iv)   Potassium

(b)   In what way deficiency of these nutrients harmful to crops ?

(c) What do you mean by genetically modified crops?

SECTION - B

25   A sample of yellow dal was taken in a test tube and two drops of iodine solution were added to   1
test metanil yellow. The colour observed will be :

   (a)   Blue-Black   (b)   Pink

   (c)   blue   (d)   yellow-brown

26   Metanil yellow is adulterant of food material :   1

   (a)   Turmeric powder   (b)   Pulses

(c)   Spices   (d)   Seeds

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   Iron sulphide obtained by heating iron filings and sulphur powder is a :   1

(a)   black powder   (b)   hard black mass ,
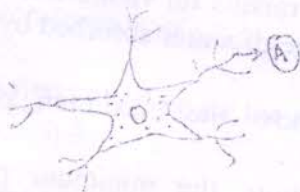
(c)   yellow solid   (d)   grey solid

29   Crystals of copper sulphate are heated, they turn white. This colour change is due to :   1

(a)   loss of copper ions   •

(b)   loss of sulphate ions

(c)   decomposition of copper sulphate

(d)   loss of water of crystallisation

30   The cell organelle which is not found in human cheek cells is :   1

(a)   Cell membrane   (b)   Nucleolus

(c)   Cell wall ⁊   (d)   Cytoplasm

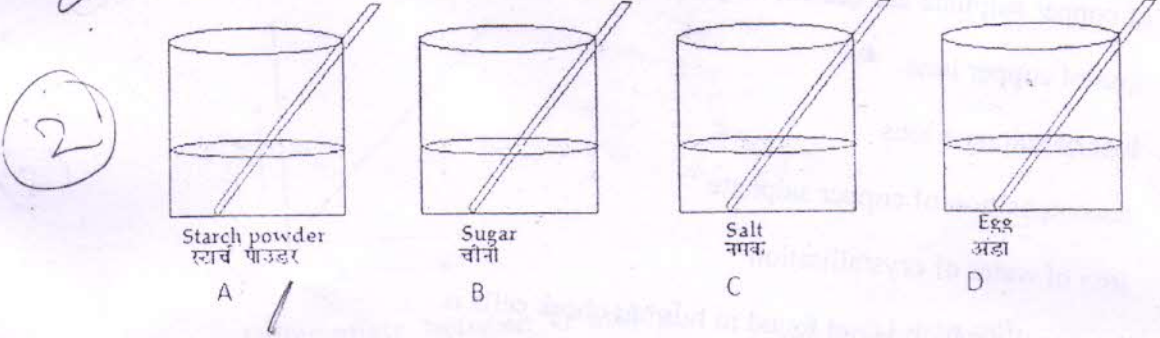31   1

Part of nerve cell has been drawn here. The correct labelling for 'A' is :

(a)   cilia   (b)   flagella

(c)   tentecles   (d)   dendrites •

32   Out of the following substance which does not undergo sublimation is :

    (a)   Dry Ice   (b)   Camphor

    (c)   Sand   (d)   Iodine

33   Property of a body by virtue of which it opposes any change in state is called :

    (a)   Momentum   (b)   Energy

    (c)   Inertia   (d)   Acceleration

34   Four students A, B, C and D are asked to prepare colloidal solutions. The following diagrams   2
show the preparation done by them. Name the student, who will be able to prepare colloidal
solutions. Write two properties of colloidal solution.

Starch powder   Sugar   Salt   Egg
स्टार्च पाउडर   चीनी   नमक   अंडा
    A   B   C   D

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

36   Three students A, B and C were given five raisins each of equal mass. The raisins were soaked   2
in distilled water at room temperature. A soaked the raisins for 10 minutes, B for overnight and
C for 60 minutes. Then they calculated the percentage of water absorbed by raisins.
Now answer the following questions:-
    (a)   Name the student whose raisins will show the maximum percentage of water
absorbed.
    (b)   Name the student whose raisins will show the minimum percentage of water
absorbed.