SUMMATIVE ASSESSMENT-1 (2015-16)

CLASS-IX

SCIENCE

TIME-3 Hr. M.M.-90

General Instructions:

1. The question paper comprises 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 Section 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 and are two marks questions.

SECTION-A

1. Lysosomes are known as the suicide bags of the cell. Give reason.
2. The rate of evaporation of a liquid increases on heating. Explain.
3. Name the physical quantity whose unit is:
   i) kg m/s ii) N m^2kg^{-2}
4. Explain how during the burning of a candle, both physical and chemical changes take place.
5. It is difficult to balance our body when we accidentally slip on a peel of Banana. Explain why?
6. What are the advantages of rearing dairy animals?
7. Give any three distinguishing characters of collenchyma and parenchyma.
8. Differentiate between homogeneous and heterogeneous mixture with the help of two examples.
9. With the help of a labelled diagram, describe in brief the process of sublimation.
10. Cough syrup is a common medicine used in cold and cough. It contains alcohol (ethanol) as one of its constituents. Some of the people use it as an alternative of wine.

(i)What should the government do to prevent the misuse of such medicines?

(ii)Which is the most common method for expressing the concentration of a solution?

(iii) 25 g of salt is dissolved in 100 g of water at 293K. What is the concentration of solution at this temperature?

11. There are three beakers A, B and C having salt in water, milk in water and sand in water respectively. Categorize these as colloids ,suspension and true solution. Differentiate these three in terms of particle size, Tyndall effect and stability.

12. Starting from a stationary position, Rehan paddles his bicycle to attain a velocity of 6 m/s in 30 s. Then he applies brakes such that the velocity of the bicycle comes down to 4m/s in the next 5 s. Calculate the acceleration of the bicycle in both the cases.

13. A car acquires a velocity of 72 km/hr in 10 seconds starting from rest. Find

a) The acceleration
b) The distance travelled in this time and
c) The average velocity

14. State and derive the law of conservation of momentum.

15. According to Newton's law of gravitation, the apple and the Earth experience equal and opposite forces due to gravitation. However, it is the apple which falls towards the Earth and not vice versa. Why?

16. Describe any three functions of the ER.

17. Name the following:

i. Epithelial tissue containing thin, flat, irregular cells
ii. Epithelial tissue found in the ducts of salivary glands
iii. Epithelial tissue present in glands such as the thyroid and pituitary glands

18. What are the management practices required to be taken in a livestock farm to ensure a healthy and productive livestock population?

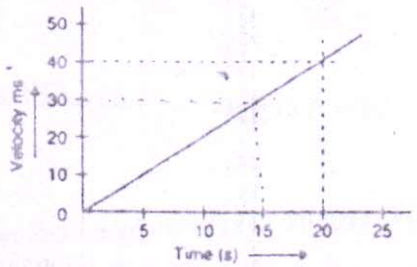
19. (a) Name the appropriate methods to separate the following:

(i) Nitrogen from air
(ii) Dye from blue ink
(iii)Cream from milk
(iv)Ammonium chloride from common salt

(b) Crystallisation is a better technique than simple evaporation. Give one reason to justify the statement.

(c) Draw a labelled diagram to show the process of separation of immiscible liquids.

20. The velocity–time graph for an object is shown in the following figure.



a) State the kind of motion which the above graph represents.
b) What does the slope of the graph represent?
c) What does the area under the graph represent?
d) Calculate the distance travelled by the object in 15 s.

21. (a)Using Newton's law of motion, derive the relation between force and acceleration.
(b)Define one newton.
(c)Which would require a greater force to accelerate—a 0.5 kg mass at 5 m/s^2 or a 4 kg mass at 2 m/s^2? Give reasons.

22.i)Draw a neat labelled diagram of a prokaryotic cell.
ii)Why are organisms such as bacteria called prokaryotes?
iii) Differentiate between prokaryotes and eukaryotes.

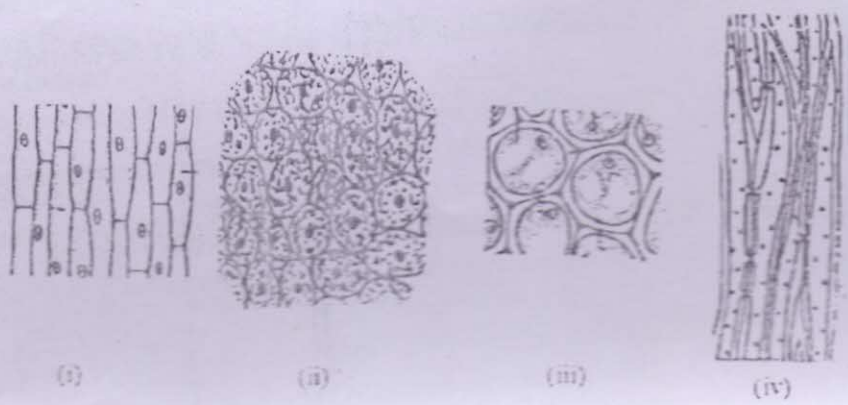
23.(a)What is lactation period? Name two breeds of cattle.
(b)What are roughage and concentrates?
(c) What is apiculture?
(d) Name two marine fishes.

24.Compare in tabular form the properties of solids, liquids and gases with respect to the following properties:

a) Shape
b) Volume
c) Compressibility
d) Diffusion
e) Fluidity

SECTION B

Q. 25 The correct figure of sclerenchyma tissue is (1)



(i) (ii) (iii) (iv)

A.(i)
B. (ii)
C.(iii)
D. (iv)

Q. 26 The principle of working of a spring balance is based on (1)

A. Plasticity of metals
B. Elasticity of metals
C. Ductility of metal
D. Malleability of metals

Q. 27 A student sets up an apparatus for determining the boiling point of water. He records the temperature after regular intervals and finds that water when it begins to boil
(1)

A. Remains constant and then decreases
B. Continuously rises
C.First rises and then becomes constant

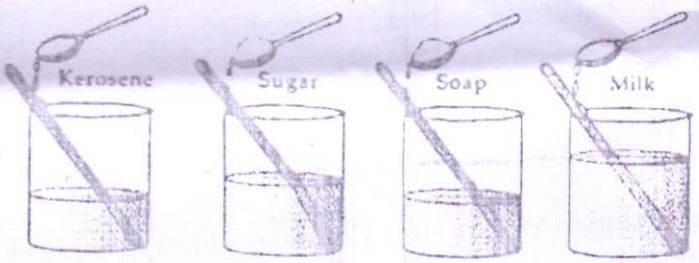
D.First remains constant and then rises

Q. 28 Metanil yellow is (1)

A. A dye used in the textile industry
B. A chemical used in laundry
C. Acid used in neutralisation reactions
D. Salt formed after a neutralisation reaction between an acid and a base

Q. 29 The following substances are added to water in a beaker as shown below. The

mixture is stirred well. A true solution is found in the beaker. (1)



(i) (ii) (iii) (iv)

A.(i)
B. (ii)
C.(iii)
D. (iv)

Q. 30 Rituka added few drops of iodine solution to test tubes A, B and C containing food samples. She observed that a blue-black colour appeared in the test tubes A and C.

What was the correct order of the food samples present in the test tubes? (1)

A. Potato, dal, dal

B. Rice, potato, dal
C. Rice, dal, potato
D. Potato, potato, rice

Q. 31 A man pushes on a wall out of frustration with a force of 30 newton. What force does the wall exert on the man?

(1)

A. 60 N
B. 30 N
C. 15 N
D. 0 N

Q. 32 Action and reaction forces are always (1)

f) Equal and in the same direction
g) Unequal and in the same direction
h) Equal and in the opposite direction
i) Unequal and in the opposite direction

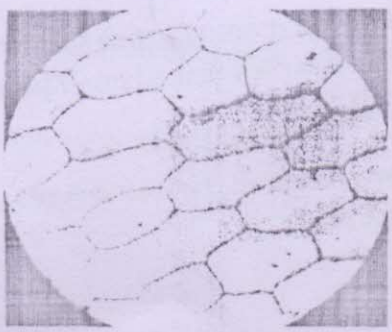
Q. 33 The starch test gives blue-black colour because starch reacts with iodine to form

(1)

A. Glucose-potassium complex
B. Starch-carbon complex
C. Starch-iodine complex
D. Glucose-potassium complex

Q. 34 A teacher focused the slide given below under a compound microscope. Which of

the following students identified it correctly? Why? (2)



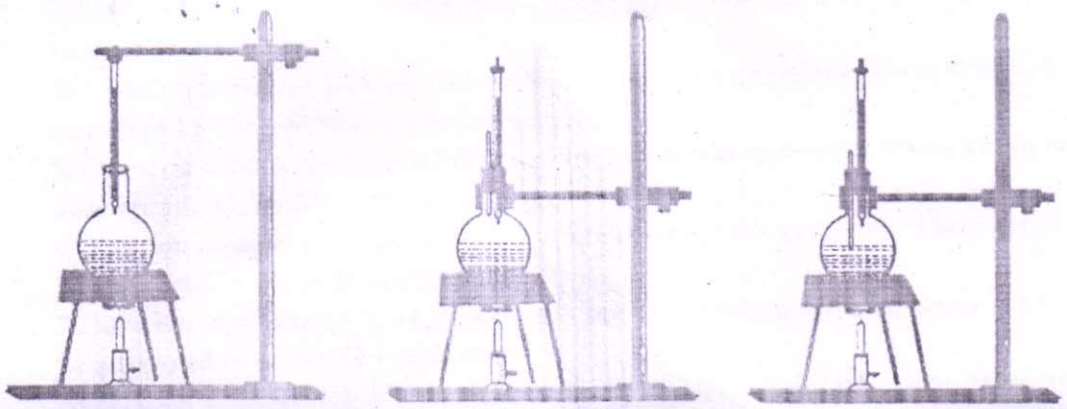
A. Sheela identified it as cheek cells.

B. Madhu identified it as squamous epithelium.

C. Balaji identified it as parenchyma.

D. Shanti identified it as onion peel.

Q. 35 Which one of the following experimental setups is correct for the determination of the boiling point of water? Why? (2)



I II III

Q. 36. (i) To move a wooden block A placed on a horizontal surface, Atul uses a spring balance and measures the minimum required force F_1. Now, he keeps one more block B over it and then measures the minimum required force as F_2. The relation between F_1 and F_2 is

9. $F_1 > F_2$

10. $F_2 > F_1$

11. $F_1 = F_2$

12. It depends on which face of block A is placed on the surface

(ii) What will happen if the blocks are interchanged? (2)