



DELHI PUBLIC SCHOOL, CHANDIGARH

Summative Assessment-I (2014-15)

Class-IX
SCIENCE

1

TIME: 3 Hrs

Maximum Marks: 90

Instructions:

Eshita
9-9

- The question paper comprises of two sections, A and B. You are to attempt both the sections.
- All questions are compulsory.
- There is no overall choice. However, internal choice has been provided in all the six questions of five marks category. Only one option in such questions is to be attempted.
- All questions of section A and all questions of section B are to be attempted separately.
- Questions 1 to 3 in section A are one mark questions. These are to be answered in one word or one sentence.
- Questions 4 to 6 in section A are two marks questions. These are to be answered in about 30 words each.
- Questions 7 to 18 in section A are three marks questions. These are to be answered in about 50 words each.
- Questions 19 to 24 in section A are five marks questions. These are to be answered in about 70 words each.
- Questions 25 to 33 in section B are multiple choice questions (1 mark) based on practical skills and question 34 to 36 are short answer questions (2 mark) based on practical skills.

Section A

1. Suggest a method to liquefy atmospheric gases.
2. What is meant by a pure substance?
3. Give the term which refers to crossing between genetically dissimilar plants
4. An object is thrown upwards with a velocity of 20m/s. Find the time taken by the object to return to the ground.
5. A force acts on an object of mass 4kg and changes its velocity from 10m/s to 20m/s in 5s. Find the magnitude of force.
6. What do we call the milk producing female animals and animals used for farm labour respectively?
7. Write 3 points of difference between distance and displacement.
8. Derive velocity position relation by graphical method.
9. State Newton's first law of motion. Give two examples. Is some force required to keep an object in uniform motion?
10. State Newton's law of gravitation. Give two points of importance of this law.
11. Where is the value of acceleration due to gravity more- on poles or on equator of earth? Find the force of attraction between two objects of mass 5kg and 2kg separated by a distance of 4m.
12. Define solute and solvent. Is it possible to separate them?
13. 110g of salt is present in 550g of solution. Calculate the mass percentage of the solution.

14. Convert the following into $^{\circ}\text{C}$
 (a) 373K (b) 478K (c) 649K
15. State one similarity and two differences between mitochondria and plastids.
16. a) Give the difference between tendon and ligament on the basis of their location.
 b) Name the tissue which stores fat.
 c) Name the cells that form bone.
17. Give three differences between manure and fertilizers.
18. Ritu's father was in charge of a storage godown. He found after six months that the grains kept in the store were spoilt because of insects and rodents. He then contacted the agency to know about preventive and control measures to be used before grains are stored.
 a) What kind of qualities are shown by Ritu's father?
 b) Write two preventive measures that should be taken before storing the grain.
 c) Write two factors responsible for losses of grains during storage.
19. a) An object has moved through a distance. Can it have zero displacement? How?
 b) Draw velocity time graph for uniform motion and non-uniform motion. How can we find acceleration from velocity time graph?
- OR
- a) Can an object have (i) zero velocity but non zero acceleration. (ii) zero acceleration but non zero velocity. If yes give example. If no explain why.
 b) Name two quantities which can be obtained from the velocity time graph of an object. How can we convert speed from km/h to m/s?
20. a) What is inertia? On which factor inertia depends? Give its types.
 b) What is momentum? Give its S.I. unit
- OR
- a) Explain why some of the leaves may get detached from a tree if we shake its branches?
 b) An object experiences a net zero external unbalanced force. Is it possible for the object to be travelling with a non-zero velocity? If yes what can we say about the magnitude and direction of the velocity?
21. a) Distinguish between solids and gases in a tabular form under the following characteristics.
 a) Rigidity
 b) Compressibility
 c) Inter-particle forces of attraction
 d) Inter-particle spaces
 e) Kinetic energy of particles
- OR
- a) State one similarity and one difference between evaporation and boiling.
 b) List four factors which affect the rate of evaporation.
22. a) Tabulate the difference between suspension and true solution with respect to
 (i) Filtration (ii) Transparency (iii) Stability
 b) Which separation technique will you use to separate:
 (i) A mixture of miscible liquid.
 (ii) A mixture of immiscible liquid.
- OR
- a) Outline a scheme to separate the constituents of mixture containing Iron fillings, common salt and sand.
 b) Write any two applications of crystallisation.

23. (a) What is the function of a vacuole in a typical plant cell?
 (b) What will happen if an animal cell is placed in a very hypertonic solution? Give reason to justify.
 (c) Name the cell organelle which is called as "the packaging and dispatch unit of the cell."
 (d) Give the location and function of lateral meristem.

OR

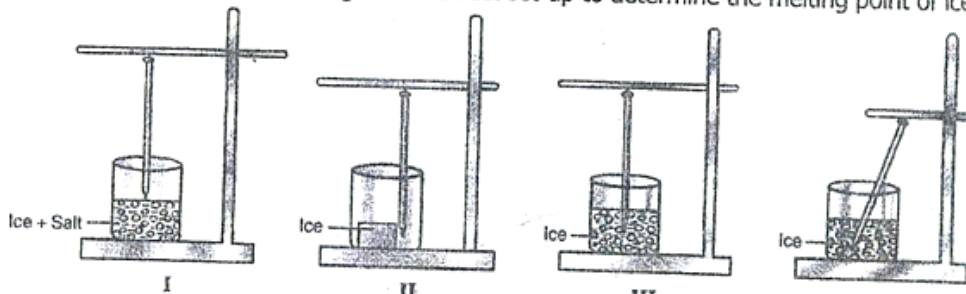
- (a) What do we call DNA present in a non-dividing cell? What changes take place in this material when the cell is about to divide? What is it then called?
 (b) State two differences between prokaryotic cell and eukaryotic cell based on the following criteria :
 i) Chromosome number
 ii) Membrane bound organelles
 (c) Why lysosomes are known as suicide bags?
 24. (i) What are macronutrients?
 (ii) Give one difference between layers and broilers.
 (iii) How is a major problem of lack of availability of good quality seeds in fish farming overcome?
 (iv) Give one advantage of composite fishing.

OR

- (i) What is genetic manipulation? How is it useful in agriculture?
 (ii) Name two Indian bee varieties.
 (iii) What are the two characteristics of a healthy animal?

SECTION B

25. The direction of weight is
 a) vertically downwards
 b) perpendicular to the surface
 c) tangential to the surface
 d) vertically upwards
 26. Which one of the following is the correct set-up to determine the melting point of ice?



- a) I b) II c) III d) IV
 27. For the accurate determination of boiling point of water, we use:
 a) tap water
 b) distilled water
 c) salt solution
 d) sugar solution
 28. The equipment required to prepare iron sulphide by heating a mixture of iron filings and sulphur powder is :
 a) petri - dish b) watch glass c) china-dish d) beaker
 29. Which of the statements is correct for the process of melting of ice:
 a) at melting point only ice exists
 b) at melting point only water exists
 c) at melting point both ice and water exists.
 d) none of the above.

30. A student prepared a slide of a plant cell. Name the stain he used.
- | | |
|---|--|
| a) <input checked="" type="checkbox"/> Safranin | b) <input type="checkbox"/> Methylene blue |
| c) <input type="checkbox"/> Methylene red | d) <input type="checkbox"/> glycerine |
31. The inference drawn from the experiment to determine the percentage of water absorbed by raisins is that water enters by the process of
- | | |
|---|---|
| a) <input checked="" type="checkbox"/> endosmosis | b) <input type="checkbox"/> exosmosis |
| c) <input type="checkbox"/> diffusion | d) <input type="checkbox"/> all the above |
32. To test the presence of starch in a food sample we generally use a chemical. Select the chemical:
- | | |
|---|--|
| a) <input checked="" type="checkbox"/> iodine | b) <input type="checkbox"/> methylene blue |
| c) <input type="checkbox"/> sodium hydroxide | d) <input type="checkbox"/> dilute hydrochloric acid |
33. The adulterant added to arhar dal is
- | | |
|---|---|
| a) <input type="checkbox"/> metanil red | b) <input type="checkbox"/> metanil blue |
| c) <input checked="" type="checkbox"/> metanil yellow | d) <input type="checkbox"/> metanil black |
34. Give two precautions to be taken while determining boiling point of water.
35. Why is it advised to rub magnesium ribbon with sand paper before burning it in air?
36. What is the final appearance (colour) of solution formed when zinc metal is put into dilute sulphuric acid?
36. a) Identify the muscle cell given in the figure. Where are they found in human body?



- b) How are these different from the cells found in heart? Give one difference.