SUMMATIVE ASSESSMENT
SCIENCE
Class: IX

Time: 3 Hrs.   **M.M: 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 marks 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.
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. Each question is of two marks.

SECTION A

1. Name any two cell organelles having double membrane envelope.

2. An object travels a distance of 18 m in 4s and then another 18 m in 2s. What is the average speed of the object?

3. Name the physical quantity whose unit is kg m/s.

4. What is Tyndall effect? Why the solution of copper sulphate does not show Tyndall effect?

5. Name the tissue in animal which carries out similar function as the following tissues do in plants:
   (1) Epidermis
   (2) Vascular Bundles.
   Also write their functions.

6. Name the positions on the surface of earth where the value of 'g' is

   (i) maximum

(ii) minimum? Justify your answer.

7. Explain the following terms with an example each:
(a) Homogeneous mixture
(b) Heterogeneous mixture

8. Lis the three characteristics of particles of matter.

9. Give reasons for the following:
(a) Our body feels cool when we apply perfume on it.
(b) We get the smell of pizza easily as compared to that of ice cream.

10. Draw the diagram of smooth muscle cell and a sperm cell. Comment on the variety of shapes of cell by taking two more examples.

11. (a) Blood is called a fluid connective tissue? State reason.
(b) Name the various components of blood.
(c) state the main function of blood.

12. In every one life situation why is it difficult to achieve zero unbalanced force? How do ball bearing affect the friction?
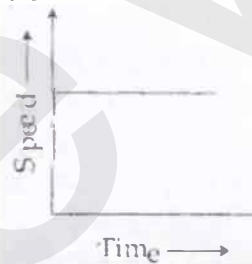
13. Mona weighs 423 N on Earth and 1000 N on the Planet Jupiter. What is the gravitational force on Jupiter? (g = 10ms^{-2}).
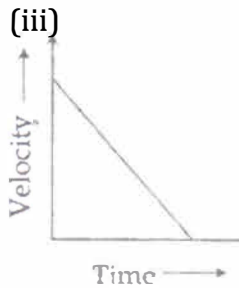
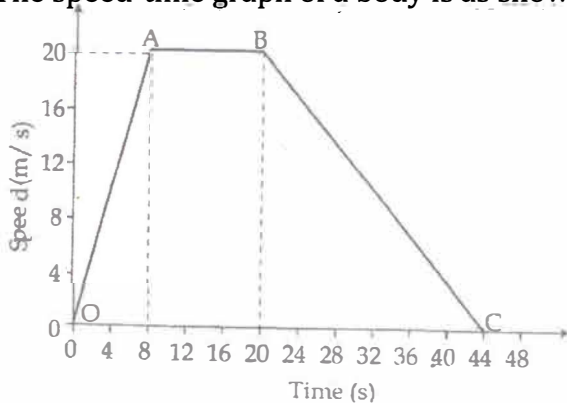14. Mention the type of motion represented by the following graphs:
(i)

(ii)
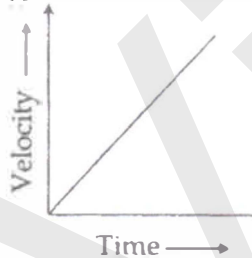
(iii)

15. Define uniform acceleration and write its SI units.
A bus travels first 20 km in 1 hour, next 20 km in half an hour and next 20 km n 1 hour. Calculate the average speed of the bus.

16. A boy of mass 50 kg running at 5 m/s jumps on to a 20 kg trolley travelling in the same direction at 1.5 m/s. Find their common velocity.

17. Dunichand was good in studies and his parents wanted him to continue further. When he came to the village during vacation he persuaded villagers to adopt modern methods of irrigation, genetically modified seeds. And the villages saw tremendous increase in the yield.
(i) Why the modern method of irrigation are better than the traditional ones?
(ii) What is meant by genetically modified seeds?
(iii) What values of dunichand are exhibited by his behavior?

18. Mention two ways of obtaining fish. Name two ways by which the marine fish capturing is done.

19. How will you separate a mixture of red and blue ink? Name the technique used. Draw a labelled diagram and explain it.

20. (a) What is meant by the word 'Latent' in talent heat.
(b) Explain with examples of water:
(i) Latent heat of fusion and
(ii) latent heat of vaporization

21. Draw diagram of neuron and label the following parts on it.
(i) single long part of nerve cell
(ii) short branched parts
(iii) Nucleus
(iv) Cell body

Name two tissues whose combination enables animals to move rapidly in response to stimuli.

22. (a) A plant has mass five times that of earth and radius three times that of earth.
(i) What is its acceleration due to gravity?
(ii) Calculate the weight of a body with mass 8 kg on that planet.

23. The speed-time graph of a body is as shown below.

(a) What type of motion is represented by OA?
(b) What type of motion is represented by AB?
(c) Calculate the retardation of the body.
(d) Calculate the distance travelled by the body from 0 to C.
(e) What is the average velocity of the body for its entire journey?

24. In India poultry farming is necessary to supply cheap protein using low input. Discuss. Which management practices are important for good production of poultry birds?

<div align="center">SECTION B</div>

25. A student added a few drops of iodine solution to potato extract in test tube A and a few drops of conc hydrochloric acid to yellow dal mixed with water in test tubes B. He will observe the presence of:
(a) Sugar in test tube A, starch in test tube B.
(b) Metanil yellow in test tube A, starch in test tube B.
(c) Proteins in test tube A, Metanil yellow in test tube B.
(d) Starch in test tube A, Metanil yellow in test tube B.

26. On adding iodine solution in cane sugar juice, it did not turn to blue black colour. It will be inferred that, in cane sugar juice.
(a) proteins are absent
(b) sugar is absent
(c) starch is absent
(d) fats are absent

27. To prepare iron sulphide a mixture of iron filings and Sulphur powder should be heated in:

(a) petridish
(b) watch glass
(c) sand bath
(d) boiling tube/china dish

28. When a mixture of iron filings and Sulphur powder is strongly heated in a china dish. The colour of the product iron sulphide obtained is:
(a) yellow
(b) grey
(c) black
(d) colourless

29. Take 2.0g of barium chloride in tube A and 2.0 g sodium sulphate in tube B. Add 20 mL water in both test tubes,
The prepared solutions could be:
(a) There is transparent solution in tube A and opaque solution in tube B.
(b) there is homogeneous solution in tube A and heterogeneous solution in tube B.
(c) homogeneous solutions in both-tube A and tube B.
(d) A and B both have heterogeneous solution.

30. While preparing a temporary mount of onion peel, cells are stained to:
(a) Highlight the cell organelles
(b) Make the cells turgid
(c) Moisten the cell
(d) help in cell division

31. The characteristic feature for identification of sclerenchyma is:
(a) large intercellular spaces
(b) isodiametric
(c) thick wall due to lignin
(d) thickening at corners due to pectin and cellulose

32. A mixture contains two solids A & B. Only A sublimes, both A & B dissolve in water. A student is asked to separate A and B. The method he applies is:
(a) filtration followed by evaporation
(b) evaporation only
(c) sublimation only
(d) decantation

33. While doing experiment the students observed the reading of the scale on the spring balance.
These measure the:
(a) weight
(b) mass
(c) acceleration

(d) range

34.   How do we test the stability of a solution? List two solutions which exhibit this property.

35.   Why are pieces of pumice stone placed in the container before heating water while determining the boiling point of water in the laboratory? Explain briefly.

36.   A teacher soaked 10g raisins in 35mL of distilled water in a beaker A and similar amount in beaker B. She maintained the temperature of beaker A at 20^0C and beaker B at 40^0C. After an hour compared the percentage of water absorbed by the raisins in beakers A and B. What inference is drawn from her results?