980610 - C1

Class - IX

SCIENCE

Time allowed : **3 to 3½** hours | Maximum Marks : **80**

Total No. of Pages : **9**

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. There is no overall choice. However, internal choice has been provided in all the three questions of five marks category. Only one option in such question is to be attempted.

4. All questions of section **A** and all questions of section **B** are to be attempted separately.

5. Question numbers **1** to **4** in section **A** are one mark questions. These are to be answered in **one word** or **one sentence**.

6. Question numbers **5** to **13** are two mark questions, to be answered in about **30 words**.

7. Question numbers **14** to **22** are three mark questions, to be answered in about **50 words**.

8. Question numbers **23** to **25** are five mark questions, to be answered in about **70 words**.

9. Question numbers **26** to **41** in section **B** are multiple choice questions based on practical skills. Each question is a one mark question. You are to choose one most appropriate response out of the four provided to you.

10. An additional 15 minutes time has been allotted to read this question paper only.

SECTION - A

1. What is the mass of an object whose weight is 196 N ? **1**

2. How does catla differ from mrigal ? **1**

3. Two similar vehicles are moving with the same velocity on the roads such that one of them is loaded and the other one is empty. Which of the two vehicles will require larger force to stop it ? Give reasons. **1**

4. Which of the following will show Tyndall effect ? **1**
(a) millk (b) sugar solution.

5. Gravitational force acts on all objects in proportion to their masses. Why does then a heavy object not fall faster than a light object ? **2**

6. Give any 2 point of difference between metals and non metals. **2**

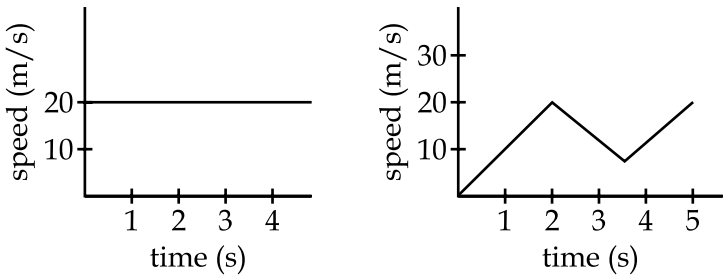
7. A stone fell from the top of a tower taking 5 seconds to reach the ground level calulate. **2**
(i) The velocity of the stone on reaching the ground.
(ii) The height of the tower ($g = 9.8\ m/s^2$)

8. Differentiate between aerenchyma and chlorenchyma. **2**

9. The mass of the earth is $6x10^{24}$ kg. The raduis of the earth is $6.4x10^6$m, and the gravitational constant $6.7x10^{-11}$. N m^2/kg^2 calculate the value of g. **2**

10. Two rheo peel were taken one peel was put in a petridish containing cold water and the other was put in a petridish containing hot water after a while both were transferred to hypertonic solutions. If the peels were observed under a microscope , will there be any difference in the observation of both the peels Yes or No give reasons for your answer. **2**

11. (a) What does the odometer of an automobile measure ? **2**
(b) Two graphs for motion of objects moving along a straight line are shown. State how the speed is changing with time in both the cases.



12. What are the long term benefits of using manure in crop production ? **2**

13. (a) The melting points of 2 substances A & B are 280 K and 320 K respectively. Are these substances liquid at room temperature ? Justify your answer **2**

(b) Give an example that shows the state of matter can be changed into another state by changing the temperature.

14. (a) State the law of inertia. **3**

(b) A body of mass 5 kg is moving with a uniform velocity of 10 m/s. It is acted upon by a force of 20N. What will be its velocity after 1s ?

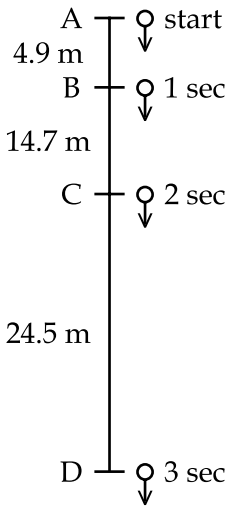
15. Explain with the help of an activity which shows that particles of matter are very small. **3**

16. A farmer wants to store his agricultural produce. What are the factors should he check before storing ? What are the control measures should he take ? **3**

17. (a) What is LPG and CNG ? **3**

(b) Give reason that gas exerts pressure on the walls of the container.

18. **3**

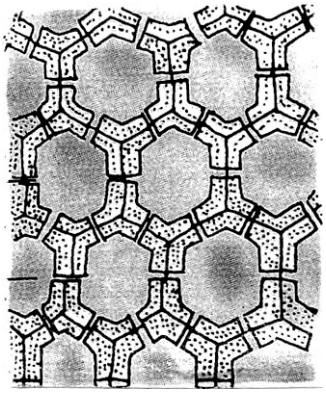


From the given data find the value of 'a' (i) from A to B (ii) from B to C (iii) from C to D

19. Broiler production is indeed a solution to increase the production of nutritions animal protein food Enumerate the factors that needs to be considered for broiler production ? **3**

20. (a) State the law of conservation of momentum. **3**

(b) Deduce an expression for Newton's second law of motion

21.  **3**

(a) Identify the tissiue.

(b) Infer the characteristic features of those cells

(c) Specify any two parts of the plant where such cells are present

22. (a) What is the unit of force ? Define it. **3**

(b) A stone is dropped from the edge of the roof. Find out the following

(i) How long does it take to fall 4.9m ?

(ii) How fast does it move at the end of that fall ?

(iii) How fast does it move at the end of 7.9m ?

(iv) What is its acceleration after 1s and 2s ?

23. (a) A solution contains 40g of common salt in 320g of water. Calculate the concentration in terms of mass by mass percentage of the solution. **5**

(b) Identify solute and solvent in 'tincture of iodine'

(c) Why Tyndall effect is not seen in true solution ?

OR

(a) Calculate the amount of glucose required to prepare 250g of 5% solution of Glucose by mass.

(b) What is dispersed phase and dispersed medium in colloids.

24. (a) Prove that V = u + at, using graphical method **5**

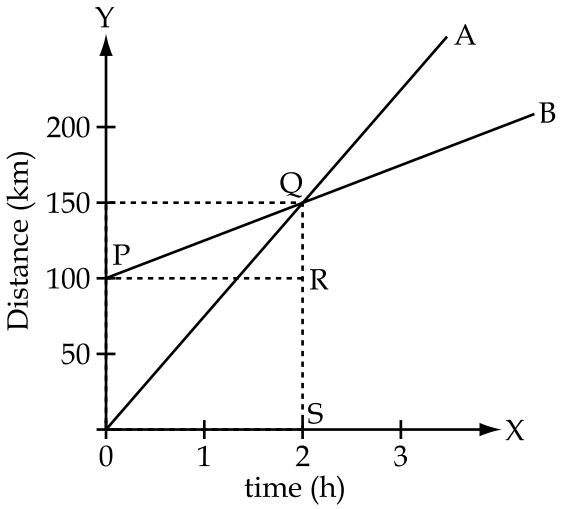
(b) A train starting from rest attains a velocity of 72 km/h in 5 mts. Assuming the acceleration is uniform. Find

(i) The acceleration

(ii) The distance travelled by the train for attaining this velocity.

OR

The distance - time graph of two trains are given below. The trains start simultaneously in the same direction.



(i) How much ahead of A is B when the motion starts ?

(ii) What is the speed of B

(iii) When and where will A catch B.

(iv) What is the difference between the speeds of A and B.

(v) Is the speed of both the trains uniform or non uniform ? Justify your answer.

25. (a) What is lacking in a Virus which makes it dependent on a living cell to multiply ? **5**

(b) Expand RER and SER. Differentiate between them is structure and function.

OR

(a) Why organisms like Bacteria are called 'Prokaryotes' ?

(b) In what way Mitochondria and Chloroplasts are different from other organelles present in a cell ?

(c) Mention any two functions of Vacuoles

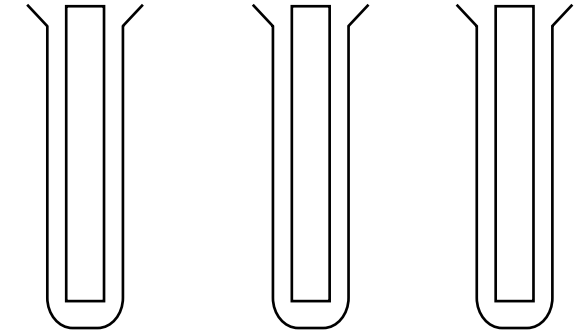
SECTION - B

26. For the accurate determination of the boiling point of water, we use. **1**

(a) tap water
(b) distilled water
(c) salt solution
(d) sugar solution

27. Small strips of red coloured paper are pasted on the inner side of the test tubes. The contents of the test tubes are as follows. Observe the coloured paper from the other side of the test tube through the liquid. **1**

(a) Coloured strip is clearly seen in A and not in B and C.
(b) Coloured strip is clearly seen in B and not in A and C.
(c) Coloured strip is clearly seen in C and not in A and B.
(d) Coloured strip is clearly seen in A and B and not in C



28. When crystals of copper crystals is heated in a test tube, the correct observation during the reaction is **1**

(a) Crystals turned Red.
(b) Crystals turned white.
(c) Crystals turned yellow
(d) None of the above

29. When carbon disulphide is added to the compound of Iron and sulphur. **1**

(a) Hydrogen sulphide gas is evolved.
(b) No reaction takes place
(c) Sulphur dioxide gas is formed.
(d) Hydrogen gas is evolved.

30. Mixture of Iron and Sulphur is **1**

(a) homegeneous
(b) heterogeneous
(c) homogeneous and heterogeneous as well
(d) none of the above.

31. A mixture of the following substance in water is translucent in the case of **1**

(a) Chalk powder

(b) Common salt

(c) Sugar

(d) None of the above

32. True solution of sugar into water is **1**

(a) Stable

(b) Unstable

(c) Quiet stable

(d) None of the above

33. Drop some Zinc granules in a test tube containing dil. H_2SO_4. You would observe that **1**

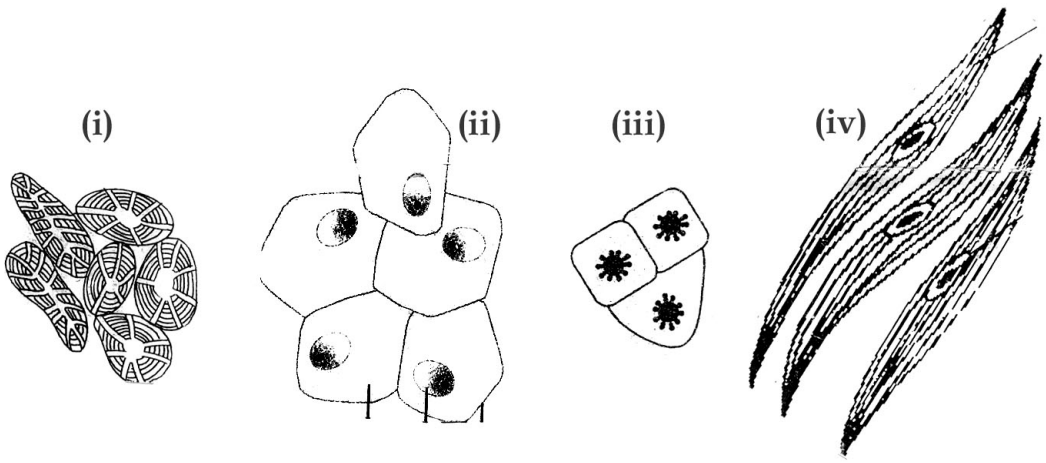
(a) Zinc granules crumble to powder

(b) Zinc granules become white in colour

(c) Size of the granules decrease

(d) Zinc metal becomes bright.

34. The correct figure of cheek epithelium is **1**



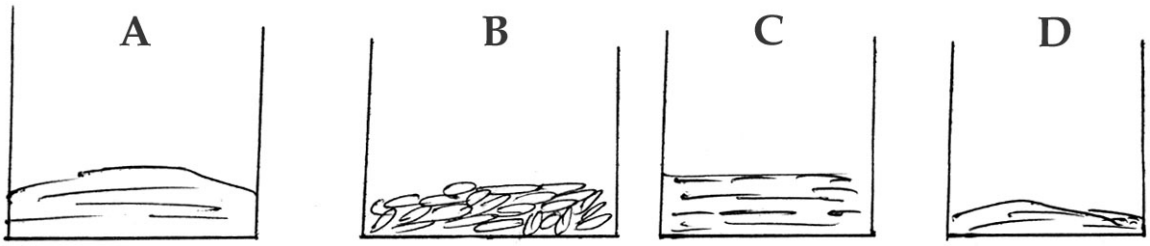
(a) (i)

(b) (ii)

(c) (iii)

(d) (iv)

35. Students were instructed to add a few drops of iodine solution to each of the following samples **1**



Sugar powder | cooked rice | barley powder | baking soda

The content turned blue back in

(a) Only A and B

(b) B and C

(c) C and D

(d) D and A.

36. The proper procedure to check adulteration of dal with metanil yellow is to boil the cooked dal with **1**

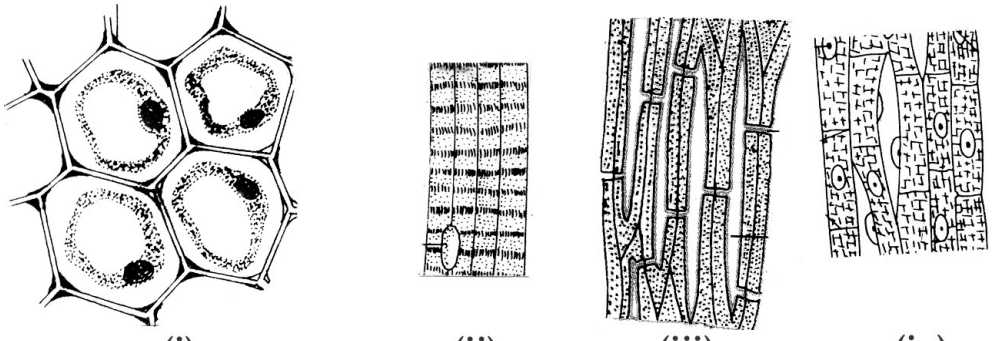
(a) HCl and observe the colour change to pink

(b) H_2SO_4 to observe the colour change to blue black

(c) HNO_3 to observe the colour change to violet

(d) HNO_3 to observe the colour change to black

37. Students observed the following tissues under the microscope. Which one of the following tissues is dead. Without living cytoplasm and nucleus. **1**



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

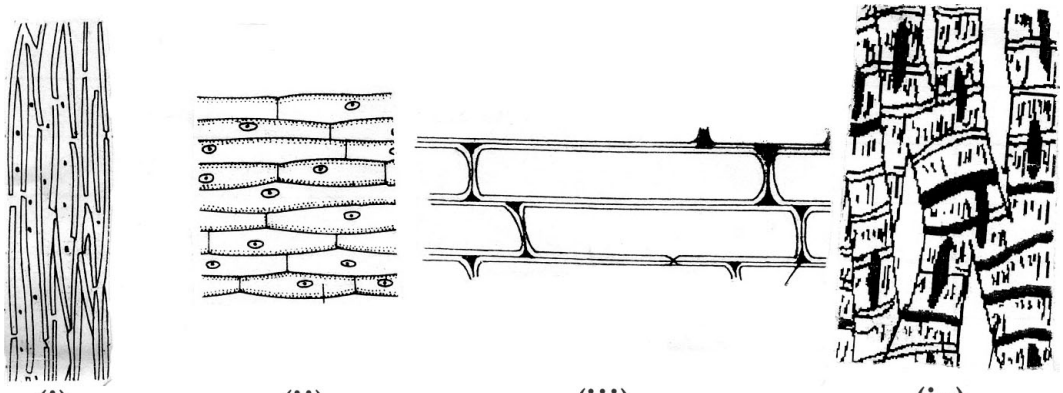
(a) (i)

(b) (ii)

(c) (iii)

(d) (iv)

38. A student made a temporary mount of onion peel and observed the same under the microscope. The cells appeared as **1**



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

(a) (i)
(b) (ii)
(c) (iii)
(d) (iv)

39. The striped muscle fibres are **1**

(a) spindle shaped and uninucleate
(b) cylindrical without nuclei.
(c) cylindrical with striations and many nuclei.
(d) cylindrical and uninucleate.

40. Students prepared 4 different mixtures in water using **1**

(a) Sand
(b) Chalk powder
(c) Sugar
(d) None of the above

The mixtures were filtered through filter papers. No residue would have been left in the case of which of the above.

41. A student wanted to prepare a true solution. He had a beaker of water to which he should add **1**

(a) common salt
(b) sand
(c) milk.
(d) starch

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