980610 - A1

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**.

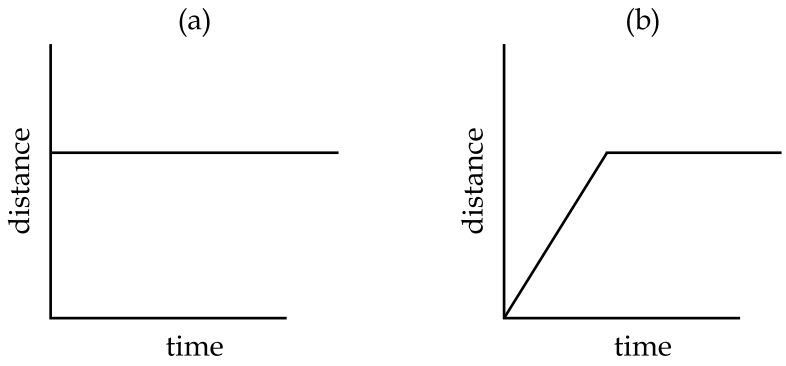
8. Question numbers **23** to **25** are five mark questions, to be answered in about **70 words**.

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 kind of motion of a body is represented by the graphs given below ? **1**



2. How does Bos indicus differ from Bos bubalis ? **1**

3. A body thrown in the vertically upward direction rises upto a height 'h' and comes back to the position of start. Calculate **1**

(a) the total distance travelled by the body

(b) the displacement of the body

4. Write any one property of suspension. **1**

5. A car covers a distance x, while moving at 54 km/hr in 15 sec. The value of x is **2**

(a) 2.25 km

(b) 5.40 km

(c) 0.225 km

(d) 13.5 km

Choose the correct answer workout to arrive at the answer.

6. (a) Convert 30°C into kelvin **2**

(b) Define latent heat of fusion

7. (a) Write differences between speed and velocity. **2**

(b) The speed of a moving object is x ms^{-1}. Its velocity is y ms^{-1}. What is the similarity observed ?

8. What would you observe after five minutes when you drop a deshelled raw egg in pure water ? Give reasons. **2**

9. (a) Define uniform circular motion. **2**

(b) Is the uniform circular motion an accelerated motion ? Give reasons for your answer.

10. In a temporary mount of a leaf epidermis we observe small pores. **2**

(a) What are the pores present in leaf epidermis called ?

(b) How are these pores beneficial to the plant ?

11. A marble rolling on a smooth floor has an initial velocity of 0.4 m/s. If the floor offers a retardation of 0.02 m/s^2, Calculate the time it will take to come to rest. **2**

12. (a) Name any one bottom feeder that can be grown in composite fish culture. **2**

(b) What are the problems faced in such a culture ? How are they overcome ?

13. A solution contains 60g of sugar in 480g of water. Calculate the concentration of solution in terms of mass by mass percentage of the solution. **2**

14. (a) The weight of a man on the surface of earth is 392 N. find its mass [g=9.8 m/s^2] **3**

(b) If the man were taken to moon, what would be

(i) His mass and

(ii) Weight ?

(iii) Calculate acceleration due to gravity on the moon

15. (a) Dry ice is compressed at high pressure. What happens to it when the pressure is released. **3**

(b) Suggest a method to liquefy atmospheric gases.

(c) What type of clothes should we wear in summer.

16. (a) What are the management practices required to be taken in a livestock form to ensure healthy and productive livestock population. **3**

(b) Name any two vitamins present in milk.

17. (a) Define evaporation. **3**

(b) How increase in surface area affects rate of evaporation with an example.

18. (a) Define the first law of motion. **3**

(b) What happens to the gravitational force when the distance between two objects is doubled ?

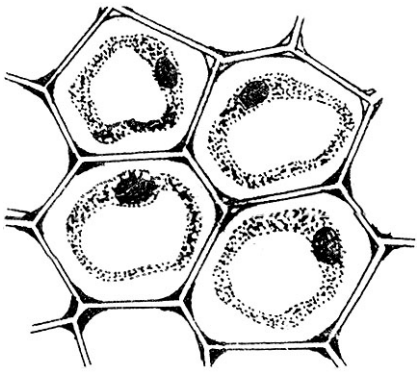
(c) Which force accelerates a body in free fall ?

19. A farmer observed Parthenium plant growing along with wheat crop. What is parthenium ? What should he do to protect his crop ? Why ? **3**

20. (a) State Newton's universal law of gravitation **3**

(b) Derive a mathematical expression for the Newton's law of gravitation

21. **3**



(a) Identify the tissue

(b) Infer the characteristic features of these cells.

(c) Specify the function of the tissue

(d) Name any one part of the plant where these cells are present.

22. (a) Give any two differences between mass and weight. **3**

(b) What will be the acceleration of a body of mass 5 kg if a force of 200 N is applied on it ?

23. (a) Why crystallisation technique is better than evaporation. **5**

(b) Write any two physical properties of each of metals and non metals.

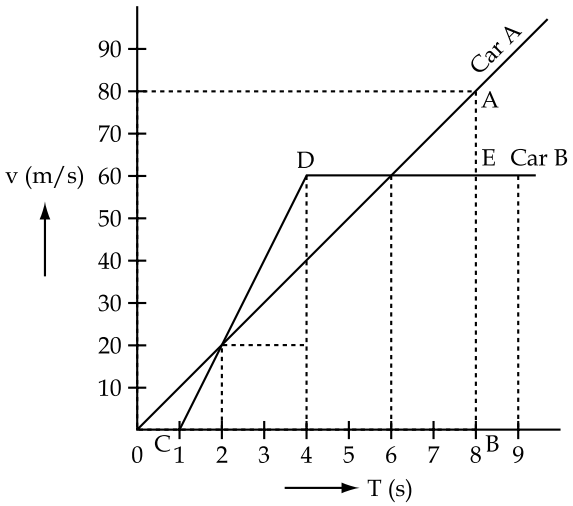
(c) Name the technique used to separate (i) butter from curd.

OR

(a) Draw a flow diagram showing the process of obtaining gases from air **5**

(b) State any three differences between a mixture and a compound

24. **5**



The V-T graph of cars A and B which start from the same place and move along a straight road in the same direction, is shown. Calculate (i) the acceleration of car A between 0 and 8s. (ii) the acceleration of car B between 2s and 4s. (iii) the points of time at which both the cars have the same velocity (iv) which of the two cars is ahead after 8 sec. and by how much ?

OR

(a) State the law of conservation of momentum. **5**

(b) Mention two factors which determine the momentum of a body.

(c) Prove the law of conservation of momentum with clear explanation, diagram and equation.

25. (a) Draw a neat labelled diagram of a prokaryotic cell. **5**

(b) Why organisms like bacteria are called prokaryotes

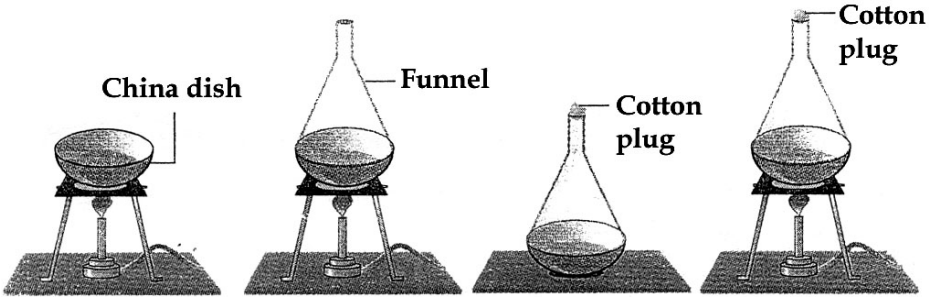
OR

(a) Categorise plastids based on their colour and function. **5**

(b) Mention the strange similarity between plastids and mitochondria with referance to synthesis of their own materials ? What do they synthesise ?

SECTION – B

26. The correct set up of apparatus for sublimation is **1**



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

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

27. Sunil dropped a few Iron nails in Copper Sulphate solution. After a few days he observed **1**

(a) no reaction
(b) Copper diposition on iron nails and the solution slowly turned green
(c) black precipitate and the solution turned green.
(d) brown precipitate and the solution remained blue.

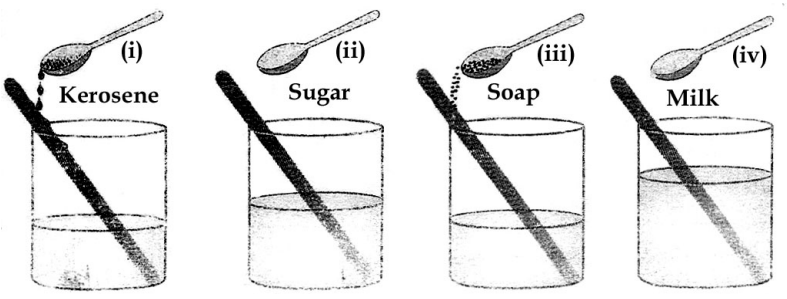
28. Raj burnt Magnesium ribbon in air. Magnesium oxide that was formed is **1**

(a) blue (b) red (c) black (d) white

29. When a mixture of Sulphur powder and Iron filings is heated **1**

(a) Iron filings starts melting
(b) Sulphur sublimates leaving Iron filling behind
(c) the mixture melts
(d) only Sulphur melts

30. The following substances are added to water as shown below the mixture is stirred well. A true solution is formed in **1**



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

31. When Barium Chloride solution is mixed with Sodium Sulphate solution **1**

(a) a white precipitate is formed instantaneously

(b) a white precipitate is formed only after some time

(c) an yellow precipitate is formed instantaneously

(d) an yellow precipitate is formed

32. In the mixture of Iron and Sulphur **1**

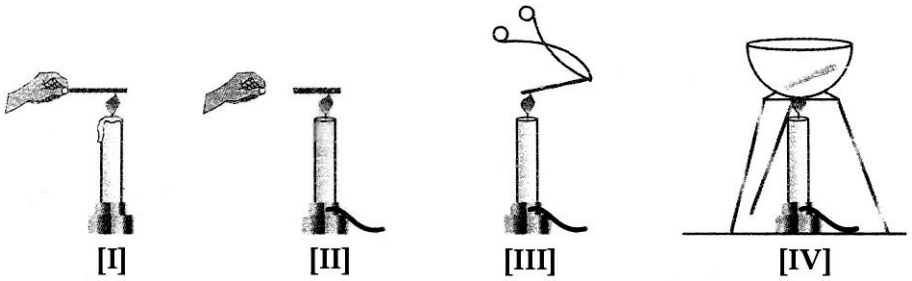
(a) Only Iron gets attracted towards magnet

(b) Only Sulphur gets attracted towards magnet

(c) Both Sulphur and Iron gets attracted towards magnet

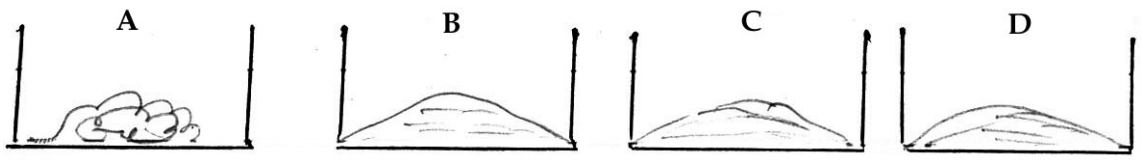
(d) None of the above.

33. Four students used different ways of burning a Magnesium ribbon as shown below. The correct way has been followed by student : **1**



(a) I (b) II (c) III (d) IV

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



cooked idly rice powder talcum power glucose

The content turned blue black in

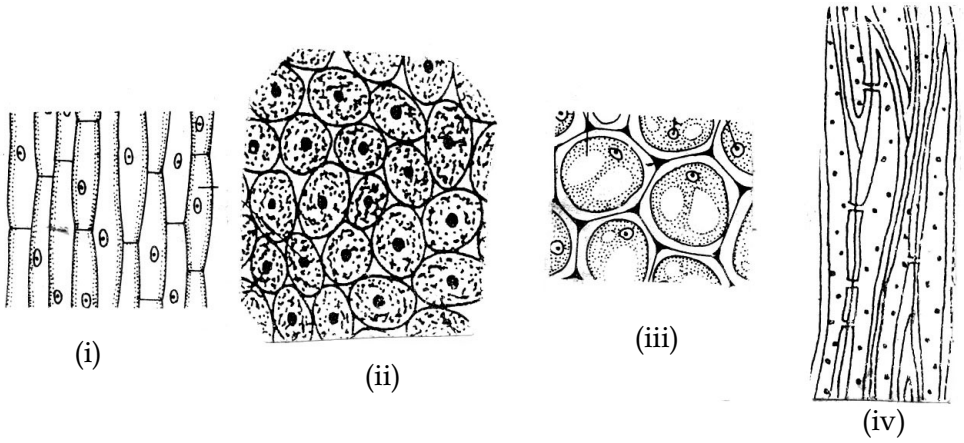
(a) A and B

(b) B and C

(c) C and D

(d) D and A

35. The correct figure of Sclerenchyma tissue is **1**



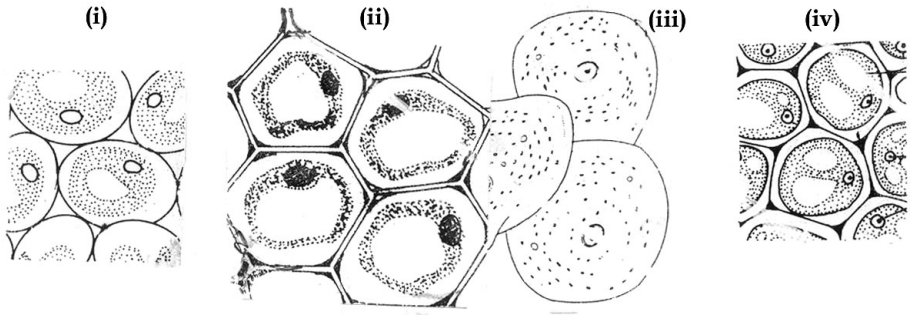
(i) (ii) (iii) (iv)

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

36. Dal adulterated with metanil yellow was boiled in water. HCl was added. The content turned **1**

(a) red (b) pink (c) orange (d) violet

37. The students observed the following tissues under the microscope and identified them **1**



The cells of one of these tissues have no cell wall and it is

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

38. Akshaya observed onion peel under the microscope. The peel was stained and it appeared pink in colour. The stain used is **1**

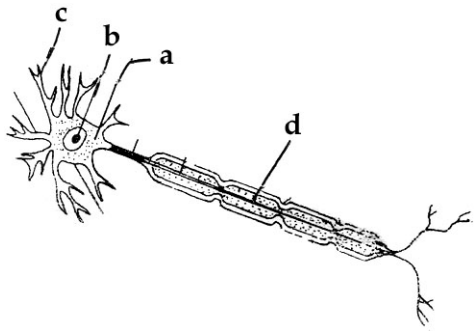
(a) glycerine

(b) methylene blue

(c) Safrain

(d) iodine

39. Observe the following diagram. The proper labelling of the neuron from a to d is **1**



(a) cytoplasm, nucleus, dendrite, axon
(b) protoplasm, nucleus, axon, dendrite
(c) cytoplasm, nucleus, dendron, dendrite
(d) plasma membrane, nucleus, dendrite, axon.

40. While heating a liquid, it has to be stirred properly. This is to let **1**
(a) the dust particles not settle at the bottom.
(b) the liquid get uniform temperature throughout.
(c) the liquid get heated quickly.
(d) the liquid evaporate faster.

41. When a thermometer is kept in the ice the reading shows that **1**
(a) temperature keeps increasing
(b) temperature keeps decreasing
(c) temperature increases first and then decreases.
(d) temperature first decreases and then remains constant at 0°C.

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