980610 - B1

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. Define 1 kg weight and express it in Newton. **1**

2. How does Bombay duck differ from Common Carp ? **1**

3. The G. Force between two objects is F. How will this force change when the distance between them is reduced to half ? **1**

4. What are homogeneous mixtures ? **1**

5. Which is having a higher value of momentum ? **2**

A bullet of mass 10 g moving with a velocity of 400m/s or a cricket ball of mass 400g thrown with the speed of 90 km/hr.

6. Give reasons for each of the following **2**

(a) Naphthalene balls disappear with time without leaving any remnant.

(b) We smell perfume sitting a few metres away.

7. A person travelling in a bus noted the timings and the corresponding distances as indicated on the km stones. **2**

Time	Distance
8.00 am	10 km
8.15 am	20 km
8.30 am	30 km
8.45 am	40 km
9.00 am	50 km

(a) Name this type of table.

(b) What conclusion do you draw from this data ?

8. What is endocytosis ? Name a organism that feeds by thin method. **2**

9. (a) What is free -fall ? **2**

(b) Write the equations of motion if an object is thrown in vertically upward direction

10. (a) What is plasma membrane made up of ? **2**

(b) Name the process and also explain how food & other substances enter through the plasma membrane.

11. (a) What is acceleration ? Write its unit. **2**

(b) Draw velocity-time graph, when an object has

(i) uniformly accelerated velocity

(ii) uniformly retarted velocity

12. The shorter the duration of the crop the more economical is the variety. Justify this statement. **2**

13. What is Saturated Solution ? Mention any two ways by which saturated solution can be made unsaturated . **2**

14. Would the rate of fall of a sheet of paper and one that is crumpled into a ball be different in. **3**

(a) air

(b) Vacuum ? Why ?

15. Explain with the help of an activity that matter is made up of particles. **3**

16. A farmer cultivated Soyabeans in the field of maize in well planned rows. Name the method of cultivation. Explain the method. What are the advantages of this agricultural practice ? **3**

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

(b) Explain how the following factors affect the rate of evaporation of a liquid.

(i) temperature of the liquid.

(ii) area of the exposed surface.

(iii) moisture in the surrounding air.

(iv) increase in wind speed.

18. A 8000 kg engine pulls a train of 5 wagons, each of 2000 kg, along a horizontal truck. If the engine exerts a force of 40,000 N and the track offers a friction force of 5,000 N then calculate : **3**

(a) the net accelerating force

(b) the acceleration of the train

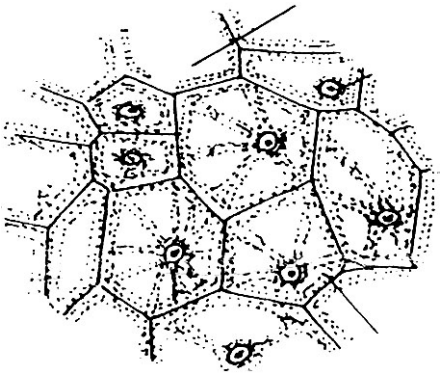
(c) the force of the wagon 1 on rest of the wagons.

19. (a) What suggestions can you give to an agriculturalist to combine fish culture in his crop field ? **3**

(b) What is mariculture ? What can be grown by this practice ?

20. Show that the weight of an object on moon is one- sixth of its weight on earth. **3**

21. Given $\begin{bmatrix} \text{Mass of earth } 5.98 \times 10^{24}\text{kg} & \text{Radius of earth } 6.37 \times 10^{6}\text{m} \\ \text{Mass of moon } 7.36 \times 10^{22}\text{ kg} & \text{Radius of moon } 1.74 \times 10^{6}\text{m} \end{bmatrix}$ **3**



(a) Identify this tissue.

(b) Infer the characteristic features of these cells.

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

22. (a) Write four phenomena which were successfully explained using universal law of gravitation (4 points) **3**

(b) What is the difference between gravity and gravitation.

23. (a) Calculate the amount of water required to prepare 500g of 2.5% solution of sugar. **5**

(b) Why Colloids show Tyndall effect not true solutions.

(c) Name a method of separation used to separate two miscible liquids.

OR

(a) 5g of sugar is dissolved in 250ml of solution. Calculate its mass percentage by Volume.

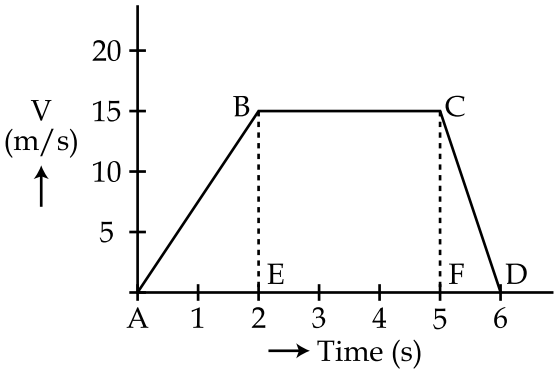
(b) Give any two characteristics of compound.

(c) Which method of separation is used to separate two immiscible liquids.

24. (a) The velocity–time graph of a car is given below. The car weighs 1000 kg. **5**

(i) What is the distance travelled by the car in the first 2 seconds ?

(ii) What is the braking force at the end of 5 seconds to bring the car to a stop within one second ?



(b) Derive the equation $S = ut + \frac{1}{2} at^2$ using graphical method.

OR

(a) A car falls off a ledge and drops to the ground in 0.5 s let $g = 10 m/s^2$

(i) What is its speed on striking the ground ?

(ii) What is its average speed during the 0.5 s ?

(iii) How high is the ledge from the ground ?

(b) Derive the expression for acceleration due to gravity.

25. (a) Name the functional segment of DNA. **5**

(b) Differentiate between a prokaryotic and a eukaryotic cell giving an example of each.

OR

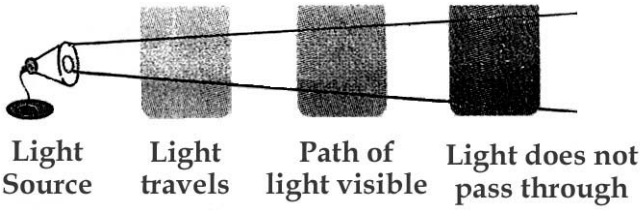
(a) Describe the cells of meristem.

(b) Categorise the meristem in a plant body based on its location.

(c) Illustrate the same and label the types.

SECTION - B

26. Observe the figures given below. The proper sequence of the contents in the glass beakers is **1**



(a) suspension, colloid, true solution
(b) true solution, colloid, suspension
(c) true solution, suspension, colloid
(d) colloid, suspension, true solution

27. The boiling point of water is : **1**
(a) 273 K (b) 376 K (c) 373 K (d) 273°C

28. Which of the following statements is right with reference to melting of ice. **1**
(a) At melting point only ice exists.
(b) At melting point only water exists.
(c) At melting point both ice and water exist.
(d) At melting point ice, water and steam exist.

29. Four students performed the following experiments and recorded their observation. Who is right ? **1**

Student	Procedure	Observation
(a)	Mixed powder of Barium Chloride and Sodium Sulphate	The mixture turns yellow.
(b)	Mixed solutions of Barium Chloride and Sodium Sulphate	Thick white precipitate is formed.
(c)	Added Sodium Sulphate powder to Barium Chloride solution	Solution becomes turbid.
(d)	Added Barium Chloride powder to Sodium Sulphate solution	No change is observed.

30. When a strip of Magnesium is burnt in air **1**
(a) dazzling white flame is seen
(b) red flame is seen.
(c) blue flame is seen.
(d) green flame is seen

31. In order to prepare a colloidal solution of egg albumin in water we **1**

(a) add egg white to boiling water and cool

(b) add egg white to cold water and boil

(c) stir egg white with cold water

(d) stir egg white with cold water with a pinch of salt

32. Colour of compound of Iron and Sulphur is **1**

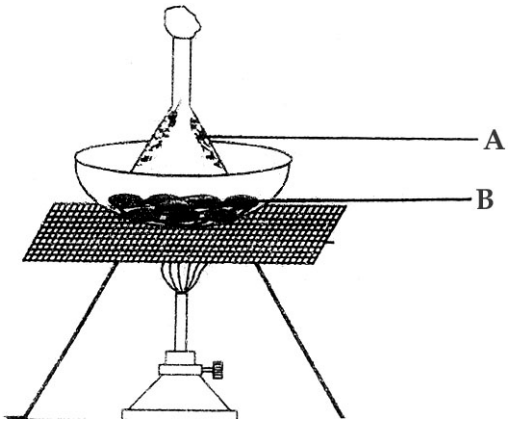
(a) Black

(b) Green

(c) Yellow

(d) None of the above

33. Observe the following set up which has mixture of camphor and sand **A** is the **1**



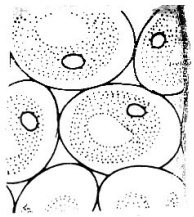
(a) residue camphor

(b) residue sand.

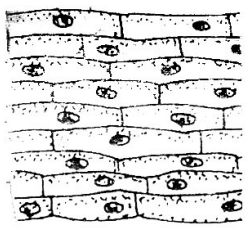
(c) sublimate sand

(d) sublimate camphor

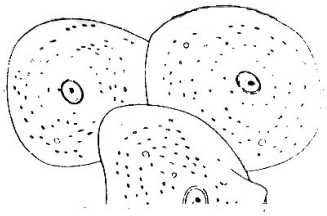
34. The correct figure of onion peel is **1**



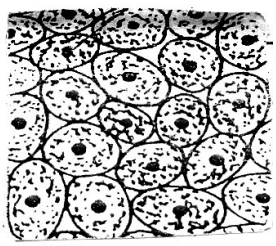
(i)



(ii)



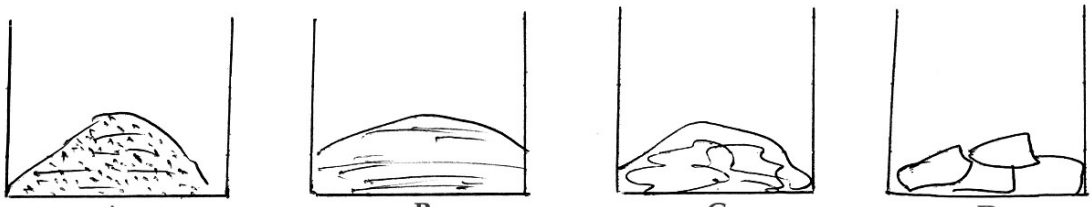
(iii)



(iv)

(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**



The content turned blue black in

(a) A and B

(b) B and C

(c) B and D

(d) D and A

36. A sample of dal was taken in a boiling tube 2ml of water was added and heated. A few drops of HCI was added. The sample changed colour to pink, It is because dal had been adulterated with **1**

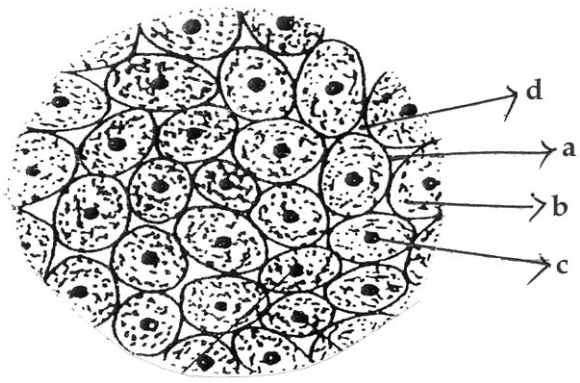
(a) turmeric powder

(b) Rangoli powder

(c) potassium dichromate

(d) metanil yellow.

37. The proper labelling of parenchyma tissue is from a to d. **1**



(a) cell membrane, cytoplasm, nucleus, air.

(b) cell wall, cytoplasm, nucleus, intercellular space.

(c) cell wall, cell membrane, cytoplasm, nucleus.

(d) cell wall, nucleus, cytoplasm, cell membrane.

38. The correct feature of check epithelium is **1**

(i) Absence of cell wall, nucleus and plastid

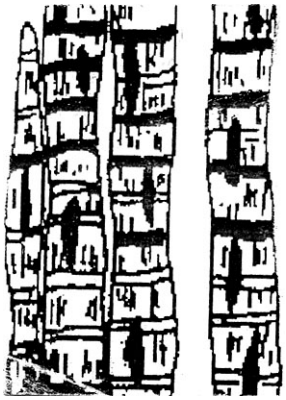
(ii) Absence of nucleus, plastids.

(iii) Absence of cell wall , plastids and inter cellular space

(iv) Absence of inter cellular space and nucleus

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

39. Identify the following tissue and match its location **1**



(a) striated muscle present in the limbs.

(b) unstriated muscle present in the blood vessels

(c) striated muscle present in the heart.

(d) unstriated muscle present in the alimentary canal

40. Upon heating Copper Sulphate crystals in China dish. It would be observed that crystals turned. **1**

(a) white

(b) yellow

(c) blue

(d) Red.

41. Liquid A boils at 60°C while liquid B boils at 80°C which is more volatile ? **1**

(a) Liquid A

(b) Liquid B

(c) Both A & B

(d) Neither A nor B

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