

KENDRIYA VIDYALAYA SANGATHAN, HYDERABAD REGION
SAMPLE PAPER 05 FOR SA - I (2016-17)

SUBJECT: SCIENCE

BLUE PRINT : SA-I CLASS IX

Unit/Topic	VSA/MCQ (1 mark)	Short answer (2 marks)	Short answer (3 marks)	Long answer (5 marks)	Total
Matter in our Surroundings	1(1)	2(1)	3(1)	5(1)	11(4)
Is matter around us pure	3(3)	4(2)	6(2)	5(1)	18(8)
The Functional unit of life	2(2)	2(1)	3(1)	5(1)	12(5)
Tissues	1(1)	2(1)	3(1)	-	06(3)
Motion	2(2)	2(1)	9(3)	5(1)	18(7)
Force and laws of motion	1(1)	-	3(1)	5(1)	09(3)
Gravitational	-	-	3(1)	-	03(1)
Improvement in food resources	2(2)	-	6(2)	5(1)	13(5)
Total	12(12)	12(6)	36(12)	30(6)	90(36)

MARKING SCHEME FOR SA – I

SECTION	MARKS	NO. OF QUESTIONS	TOTAL
VSA	1	3	03
SA – I	2	3	06
SA – II	3	12	36
LA	5	6	30
Practical based MCQs	1	9	09
	2	3	06
GRAND TOTAL			90

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SUBJECT: SCIENCE

MAX. MARKS : 90

CLASS : IX

DURATION : 3 HRS

General Instructions:

1. All questions are compulsory.
2. The question paper comprises of **two Sections, A and B**. You are to attempt both the sections.
3. All questions of **Section-A** and **Section-B** are to be attempted separately.
4. Question numbers **1 to 3** in **Section-A** are **one mark** 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** each.
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 and are **two marks** questions.

SECTION – A

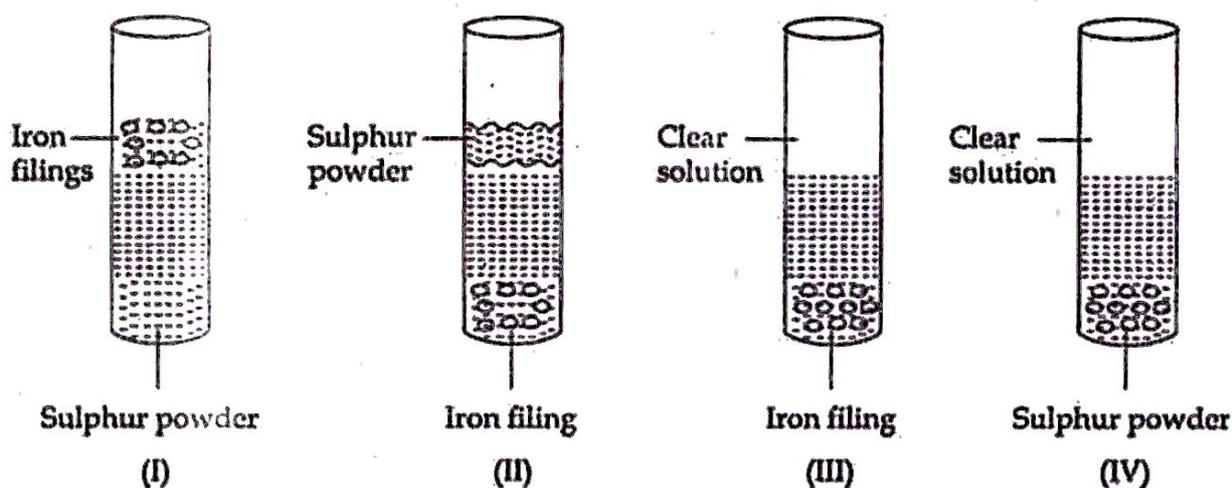
1. When a carpet is beaten with a stick, dust comes out of it. Explain.
2. Why the cell membrane is called a selectively permeable membrane?
3. There are three solids made up of aluminium, steel and wood, of the same shape and same volume. Which of them would have highest inertia
4. Name the following.
 - (a) Tissue that forms the inner lining of our mouth.
 - (b) Tissue that connects muscle to bone in humans.
 - (c) Tissue that transports food in plants.
 - (d) Tissue that stores fat in our body.
5. What is effect of increase in temperature on the solid state of matter? Explain
6. Write one example each of the following situations:
 - (a) Uniformly accelerated motion
 - (b) Acceleration is against the direction of motion
 - (c) Acceleration is in the direction of motion
 - (d) Acceleration is non-uniform.
7. State reasons for the following:
 - (a) It is difficult to hold a hose for a fireman when it ejects large amount of water.
 - (b) When an athlete comes running from a distance, he is able to jump longer.
 - (c) It is difficult to walk on a slippery road.
8.
 - (a) A particle is released from rest from a height. Find the distance it falls through in 1 sec?
 - (b) Find the distance if it falls through in 3 sec. Also find the speed with which it strikes the ground after 3 secs.

9. Write the difference between distance travelled by a body and its displacement. An ant travels distance of 12 cm from A to B and then moves a distance of 9 cm at right angle to AB. Find the resultant displacement and the total distance covered by it.
10. A ball is gently dropped from a height of 20 m. If its velocity increases uniformly at the rate of 10 m/s^2 , with what velocity will it strike the ground? After what time will it strike the ground?
11. The ratio of the gravitational force on Neptune to the gravitational force on earth is 9 : 8. Aditya weighs 795N on Earth. Calculate his weight on Neptune.
12. An animal husbandry farmers went to buy few 'Sahiwal' cows whereas other farmer wanted to purchase 'Jersey' cows, which had more lactation period than the first one. Ramesh, the third farmer, advised them to buy cross breed of both and which is better than the others.
- What are 'Sahiwal' and 'Jersey' breeds?
 - Why the cross breed produced is better than the other two breeds?
 - What prompted Ramesh to advise his friends?
13. (a) Give two examples of shell fishes.
(b) Mention the names of four marine fish of high economic value.
14. (a) How can we say that sugar is pure substance whereas milk is not?
(b) Which of the following materials fall in the category of pure substance?
(i) Ice (ii) Iron (iii) Wood (iv) Brick
15. What would happen if there were no lysosomes in the cell? (Give any three effects)
16. People of village use earthen pots to get cool water in summer. Explain the reason that why water remains cool in earthen pots?
17. When a fine beam of light enters a room through a small hole, tyndall effect is observed. Why does this happen? Give one more example where this effect can be observed.
18. What are the three types of simple permanent tissues? Specify the type of cells they are made up of, their functions and location.
19. (a) Define momentum. Derive its SI unit. How is force expressed in terms of momentum?
(b) Two balls A and B of masses 'm' and '2m' are in motion with velocities $2c$ and $1v$ respectively. Compare: (i) their inertia (ii) their momentum
20. (a) Can a body exist in a state of absolute rest or of absolute motion? Explain with example.
(b) Draw a velocity-time graph for an object in uniform. Show that the area under the velocity-time graph gives the displacement of the object in the given time interval.
21. Explain the desirable traits obtained after cross-breeding an indigenous and an exotic breed of poultry birds.
22. (a) Name any two processes which illustrate that on heating movement of particles of matter increases.
(b) Define fluidity. Explain why do liquids flow?
23. You are given mixture of alcohol and water. Explain the process to separate it into its constituents. Draw a labelled diagram of the techniques used.

24. Explain the significance of the following:
- hair like, structure on epidermal cells.
 - Epidermis has a thick waxy coating of cutin in desert plants.
 - Small pores in epidermis of leaf
 - Numerous layers of epidermis in cactus.
 - Presence of a chemical suberin in cork cells.

SECTION – B

25. We should use a test tube holder while adding conc. Hydrochloric acid to the solution obtained after dissolving a dal in water because:
- test tube might break
 - acid is corrosive
 - acid might fall and cause burns
 - test tube will become hot.
26. Aditya dissolved starch in hot water by continuously stirring it. He obtained a :
- sticky transparent solution
 - a non-sticky translucent solution
 - a sticky translucent solution
 - a sticky suspension
27. Some properties of a compound are given below. The correct property is:
- It is easy to separate components of a compound by physical methods
 - The elements in a compound do not retain their individual properties
 - The proportion of the elements in a compound always varies
 - The elements of a compound retain their properties to some extent.
28. In an experiment, carbon disulphide was added to a test tube containing a mixture of iron filings and sulphur powder as shown in the given diagrams:



The correct observation is represented in diagram:

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

29. Two substances, A and B were made to react to form a third substance, A_2B according to the following reaction



Which of the following statements concerning this reaction are incorrect?

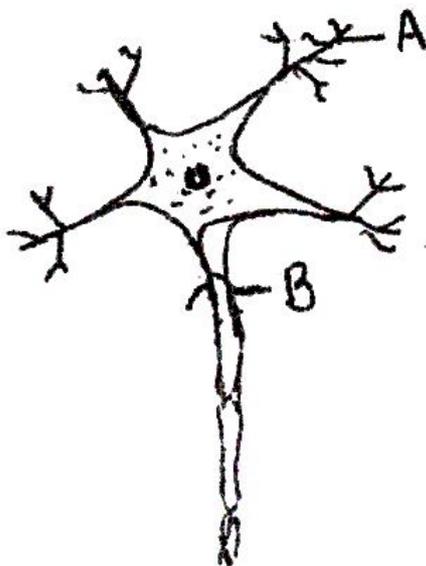
- (i) The product A_2B shows the properties of substances A and B
- (ii) The product will always have a fixed composition
- (iii) The product so formed cannot be classified as a compound
- (iv) The product so formed is an element

- (a) (i), (ii) and (iii),
- (b) (ii), (iii) and (iv)
- (c) (i), (iii) and (iv)
- (d) (ii), (iii) and (iv)

30. Which cell organelle plays a crucial role in detoxifying many poisons and drugs in a cell?

- (a) Golgi apparatus
- (b) Lysosomes
- (c) Smooth endoplasmic reticulum
- (d) Vacuoles

31. In the following diagram; the correct labeling for A and B is:



- (a) A – Nucleus; B – Dendrite
- (b) A – Axon ; B – Nucleus
- (c) A – Dendrite ; B – Axon
- (d) A – Dendrite ; B – Nucleus

32. To separate the mixture of sand, ammonium chloride and common salt the teacher advised to separate the sublime substances from the mixture first before dissolving in water. The reason for this could be:

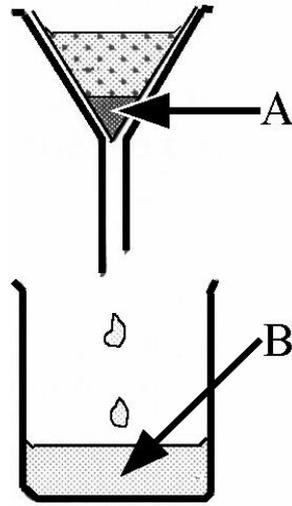
- (a) to save time as after adding water we need to evaporate it.
- (b) common salt and ammonium chloride both are soluble in water
- (c) sublimation is easier than dissolving salt in water
- (d) no specific reason it can be done in any order.

33. To measure the mass of an object we require:

- (a) spring balance
- (b) pan balance
- (c) neither spring balance nor pan balance
- (d) either spring balance or pan balance

34. A mixture of sand and salt was stirred up with water and then filtered as shown in the diagram.

- (i) Substance A was retained by the filter paper. Name A.
- (ii) Substance B was passed through the filter paper. Name one constituent of B.



35. A student recorded the mass of dry raisins as 6.0 g and mass of raisins after soaking them in water for about four hours as 10.5g. Calculate the percentage of water absorbed by raisins. Why raisins get swelled up?

36. While making a colloidal solution of starch in water why is constant stirring required? Should we add dry corn starch to boiling water or boiling water to corn starch? Why?

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