

KENDRIYA VIDYALAYA SANGATHAN, HYDERABAD REGION
SAMPLE PAPER 04 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)	4(2)	3(1)	5(1)	13(5)
Is matter around us pure	3(3)	2(1)	6(2)	5(1)	16(7)
The Functional unit of life	1(1)	4(2)	3(1)	5(1)	13(5)
Tissues	2(2)	-	3(1)	-	05(3)
Motion	1(1)	-	6(2)	5(1)	12(4)
Force and laws of motion	1(1)	2(1)	6(2)	5(1)	14(5)
Gravitational	1(1)	-	3(1)	-	04(2)
Improvement in food resources	2(1)	-	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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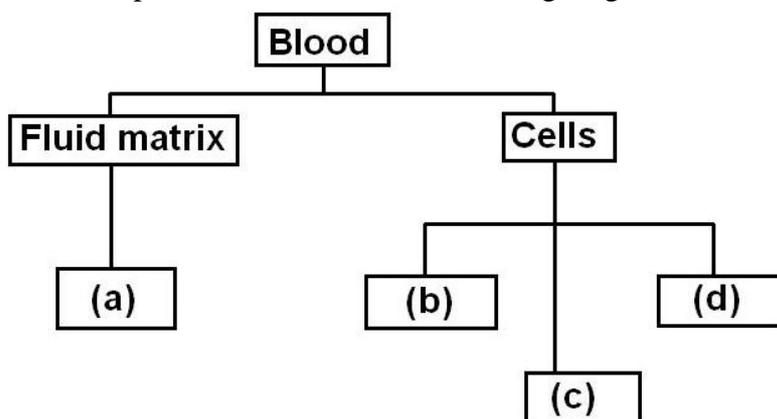
MAX. MARKS : 90
DURATION : 3 HRS

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. Why the value of g becomes greater at the poles than at the equator?
2. Why are small kids advised to play cricket with soft tennis ball rather than solid leather ball?
3. A tissue provides support to plants and also stores food. Name the tissue.
4. Mention the different components of blood in the following diagram?



5. List two points of difference between the homogeneous and heterogeneous mixtures.
6. A physical quantity 'X' is identified as rate of change of velocity. Name 'X'. write its SI unit. If for an object in motion value of 'X' is zero, is the object in uniform motion or not? Give reason for your answer.
7. Write three points of difference in mass and weight of an object.

8. Name type of motion where an object does not change its speed but its direction of motion changes continuously. Calculate the speed of the type of second's hand of a watch of length 1.5 cm.
9. A stone thrown in a vertically upward direction with a velocity of 6 m/s. If the acceleration of the stone during its motion is 10m/s^2 in the downward direction, what will be the height attained by the stone and how much time will it take to reach there?
10. If the distance between two masses were increased by a factor of 6, by what factor would the mass of one of them have to be altered to maintain the same gravitational force? Would this be an increase or decrease in the mass?
11. On reading about the farmers committing suicide in the newspaper, Divya, thought of doing something for them. She took the help of an NGO working in those areas and contacted government agencies and found out the reason behind the poor yield. It was a plant disease. The problem was taken care of and the farmers also got support in form of loan and disease resistant seeds.
- How plant diseases can be prevented?
 - In what ways insect pests attack the plants?
 - Why Aditi wanted to help farmers?
12. What are macronutrients? Which physiological processes of plants are affected by the deficiency of such nutrients?
13. Explain the process of sublimation with the help of a diagram.
14. You are provided with a mixture of Iron fillings and sulphur. Answer the following questions:
- Which techniques can be used to separate the components of mixture?
 - Name the gas which is produced when the mixture is treated with dilute sulphuric acid at room temperature.
 - Write two properties of gas evolved in part (b).
15. Clothes get dry faster in summers than in winters. Give reason.
16. How are the following related to each other?
- Chromatin network and chromosomes
 - Chloroplast and chlorophyll
 - Genes and DNA
17. (a) Define tissue.
- What is their utility in multicellular organisms? Give two reasons.
 - Why are tissues different in plants and animals?
18. The velocity of a body of mass 10kg increases from 4m/s to 8 m/s when a force acts on it for 2s.
- Find the momentum of the body before the force acts and after the force acts.
 - Find the gain in momentum per second.
 - Calculate the value of the force.
19. (a) State the reason why a small mass of bullet fired from a gun kills a person.
- A bullet of mass 4 g fired with a velocity of 50 m/s enters a wall up to a depth of 10 cm. Calculate the average resistances offered by the wall.
 - How will the depth of penetration into the wall change if a bullet of mass 5 g strikes against it with a velocity of 40 m/s? Give reason to justify your answer.

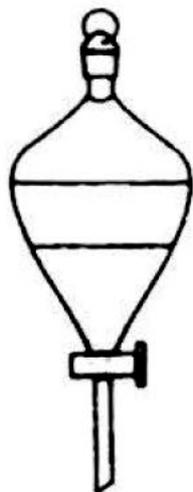
20. State Newton's First Law of Motion. Why is this law called law of inertia? On the basis of this explain the following:

- (a) It is necessary to wear seat belts while driving a vehicle.
- (b) When a carpet is beaten with a stick dust comes out of it.
- (c) It is difficult to push a heavy box than an empty box of the same size.

21. Differentiate between the following

- (i) Capture fishery and Culture fishery
- (ii) Mixed cropping and Inter cropping
- (iii) Bee keeping and Poultry farming

22. Observe the apparatus shown below and answer the following questions.



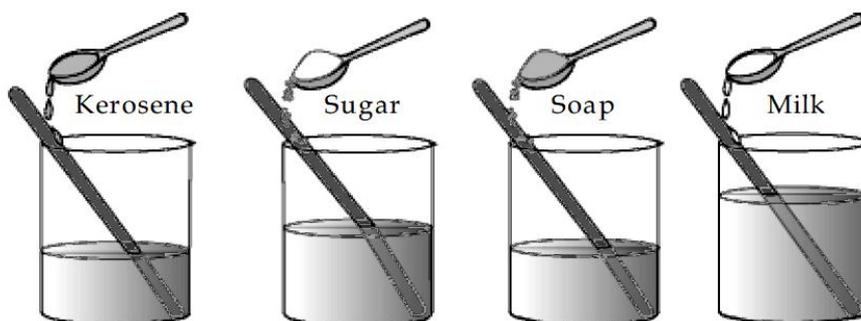
- (a) Identify the apparatus
- (b) Design and activity to use this apparatus to separate the mixture of mustard oil and water.
- (c) Write the principle involved in this process.

23. A balloon is a solid and air is a gas. When you blow air in a balloon you observe certain changes. Explain them on the basis of physical nature of matter.

24. Why the cell is called the structural and functional unit of life? Explain the concept of division of labour in multicellular organisms giving an example.

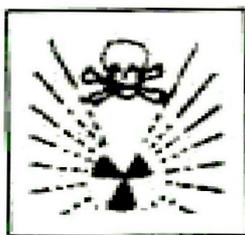
SECTION – B

25. The following substances are added to water in a beaker as shown below. The mixture is stirred well. A true solution is found in the beaker:

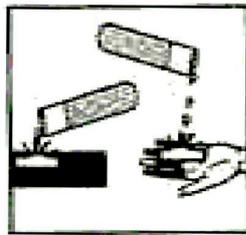


- (a) I
- (b) II
- (c) III
- (d) IV

26. Four safety symbols for carbon disulphide are given below:



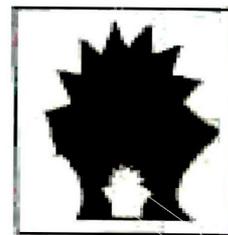
(I)



(II)



(III)



(IV)

The most appropriate symbol for carbon disulphide is

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

27. Aditi while performing food test used iodine solution with a dropper to test the presence of starch and then she dipped the same dropper in conc. Hydrochloride acid for testing adulteration in dal. Her teacher instructed her either to wash the dropper or use separate dropper. This is because:

- (a) dropper might break in acidic solution
(b) it might contaminate hydrochloric acid
(c) iodine solution might turn the acid blue black.
(d) there were many droppers available

28. The colour which starch develops upon interaction with iodine solution is:

- (a) bluish black
(b) dark black
(c) pale yellow
(d) no change in colour

29. The crystal of copper sulphate change its colour on heating. The change in colour is from blue to

- (a) black
(b) brown
(c) yellow
(d) white

30. For making a temporary mount of an onion peel cells Khushi wrote the steps and showed it to her teacher. The step that her teacher corrected was:

- (a) Take a clean slide and put a drop of glycerine on it.
(b) Take a scaly part of the onion from convex side of the onion and place it in water.
(c) Add a drop of safranin.
(d) Mount the specimen and cover it with a cover slip.

31. When stained appropriately, the muscle which shows alternate light and dark bands is:

- (a) striated
(b) smooth
(c) cardiac
(d) unstriated

32. During the process of sublimation the pure substance which collects on the inner side of the funnel is called:

- (a) Mixture
(b) Sodium
(c) Sublimate
(d) Colloid

33. The spring balance used for pulling the block has least count of 0.5 kg wt. the block starts when pointer is at 25th division. The applied force is:
- (a) 25 kg wt
 - (b) 0.5 kg wt
 - (c) 12.5 kg wt
 - (d) 5.0 kg wt
34. After a solid starts melting, we observe that the temperature remains constant until the whole of the solid has melted. Where does the energy go during that phase of melting?
35. If x is the initial mass of the raisins and y is the final mass of raisins after soaking in water. Calculate the percentage of water absorbed by raisins.
36. Which of the following cannot pass through filter paper? And which one is a transparent
Solution: Suspension, colloidal solution, true solution.
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