KENDRIYA VIDYALAYA SANGATHAN, HYDERABAD REGION
SAMPLE PAPER 03 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	-	4(2)	6(2)	5(1)	**15(5)**
Is matter around us pure	4(4)	2(1)	3(1)	5(1)	**14(7)**
The Functional unit of life	2(2)	4(2)	-	-	**06(4)**
Tissues	1(1)	-	6(2)	5(1)	**12(4)**
Motion	1(1)	2(1)	9(3)	5(1)	**17(6)**
Force and laws of motion	2(2)	-	3(1)	5(1)	**10(4)**
Gravitational	-	-	3(1)	-	**03(1)**
Improvement in food resources	2(2)	-	6(2)	5(1)	**13(4)**
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**

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. What is the numerical ratio of average velocity to average speed of an object when it is moving along a straight path?

2. Name the plastid which gives red colour to tomato and purple colour to brinjal.

3. What is the momentum of a man of mass 75 kg when he moves with velocity of 2 m/s?

4. Harsh saw many apples on the tree but was not able to pluck them. His friend asked him to shake the branches. While shaking few apples fall down. Explain why?

5. What is the effect of change of pressure on physical state of matter? Explain with an example of a gas.

6. Chloroplast and mitochondria are referred to as semi-autonomous organelles. Justify.

7. A farmer moves along the boundary of a square field of side 10 m in 40 s. What will be the magnitude of displacement of the farmer at the end of 2 minutes 20 seconds?

8. The weight of a body on the surface of the earth is 392 N. What will be the weight of this body on a planet whose mass is double that of the earth and radius is four times that of the earth?

9. Proper disposal of agricultural byproducts was a problem in the village. Aditya who had come to his ancestral village during vacation advised the villagers to set up a poultry farm to overcome this problem. They accepted his advise and introduced certain exotic breeds to increase the number and quality of eggs ad meat. Their combined decision helped in providing a balanced diet to all the villagers.
    (a) Mention any two advantages of adopting poultry farming.
    (b) Write name of one indigenous and one exotic breed of poultry.
    (c) Mention two values shown by Aditya.

10. (a) State Newton's first law of motion.

(b) The mud particles sticking on the rim of a bicycle wheel leave the rim of the wheel tangentially. When it starts moving. Explain.

11. Define hybridization. How is it useful for crop variety improvement?

12. State two properties of each of the following:

(a) a solid   (b) a liquid   (c) a gas

13. Mention three points to justify that air is a mixture and not a compound.

14. Define distillation. What type of liquids (substances) can be separated by this process?

15. Name the following and give one characteristic of each:

(a) A modified parenchyma tissue that provides buoyancy to hydrophytes plants.

(b) A fibrous connective tissue of great strength but limited flexibility.

(c) A present in the husk of coconut which is commercially exploited.

16. Write two similarities and two differences between striated and cardiac muscles.

17. Which will have greater inertia amongst three balls, A, B and C filled with same volume of mercury, water and air respectively? Give reasons to support your answer.

18. A frog hops along a straight line path from point 'A' to 'B' in 10 s and then turns and hops to point 'C' in another 5 s. Calculate the average speed and average velocity of the frog for the motion between:
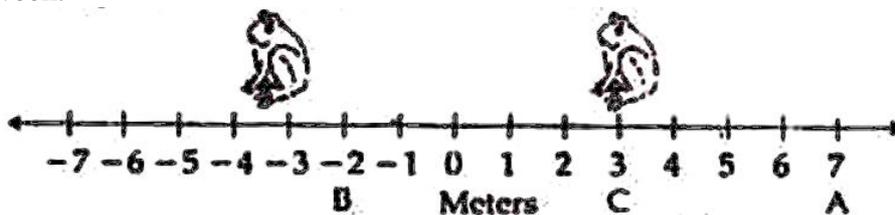

(a) A to B   (b) A to C (through B)

19. How can we obtain different gasses from air? Draw the flow diagram to show the steps of the process.

20. (a) Why do solids have fixed shape and fixed volumes?

(b) Why is air dense at the sea level?

(c) On melting of ice, there is decrease in volume instead of increase. Why?

(d) What is the binding force between molecules of a substance if a gas under ordinary conditions of temperature and pressure?

21. (a) Show the diagrammatic representation of the location of lateral meristem and intercalary meristem in plant body.

(b) Name the meristem responsible for the increase of girth of root or stem.

(c) Write two differences between meristematic and permanent tissues in tabular form.

22. (a) What is meant by composite fish culture?

(b) What is the basis of selecting the different species of fish?

(c) Which method is used to get pure fish seed?

23. (a) A motorcyclist riding motorcycle A is traveling at a speed of 20 m/s applied the brakes and stops the motorcycle in 10s. Another motorcyclist of motorcycle B who is traveling at a speed of 5 m/s applied the brakes and stops the motorcycle in 20s. Plot speed-time graph for the two motorcycles. Which of the two motorcycles travelled farther before it comes to a stop?

(b) A cyclist goes around a circular track once every 2 minutes. If radius of the circular track is 110 m, calculate the speed of cyclist?

24. (a) Define momentum and mention its SI unit.

(b) From the velocity-time graph shown in figure for a body of mass 5kg, find the force acting on body from (i) O to A and (ii) B to C.
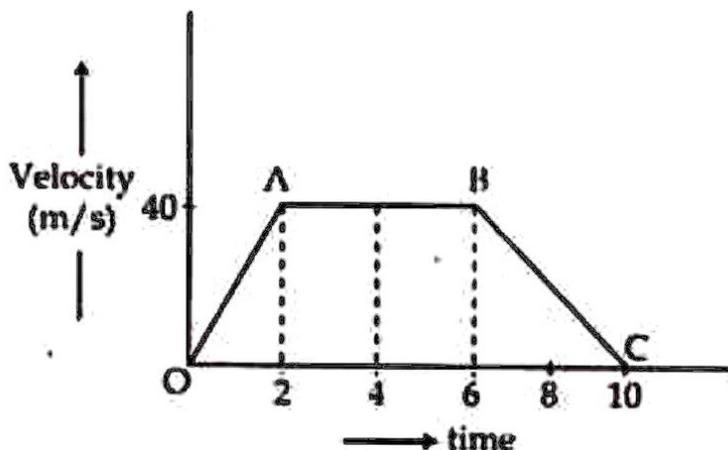
SECTION – B

25. Poultry farming is undertaken to raise following
(i) Egg production
(ii) Feather production
(iii) Chicken meat
(iv) Milk production

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

26. X washed small amount of arhar dal in small amount of water. The water became yellow. He put a few drops of HCl in a test tube containing yellow water. The sample turned pink. This shows that
(a) dal is not adulterated
(b) dal contains protein
(c) dal is adulterated with metanil yellow
(d) dal is coloured with turmeric

27. When we start heating a mixture of sulphur powder and iron filings, we would observe that
(a) sulphur starts melting
(b) iron filings starts melting
(c) mixture becomes red hot
(d) mixture evaporates

28. Take a mixture of iron filings and sulphur powder in one watch glass. Take powdered black mass obtained on strong heating of iron filings and sulphur powder in another watch glass and observe both. You will find that:
(a) Mixture of iron filings and sulphur powder forms a homogeneous mixture while black powder of iron sulphide is heterogeneous.
(b) Mixture of iron filings and sulphur powder forms a heterogeneous mixture while black powder of iron sulphide is homogeneous.
(c) Both are homogeneous.
(d) Both are heterogeneous.

29. Which one of the following diagrams represents the correct observations of a human cheek cell under compound microscope?
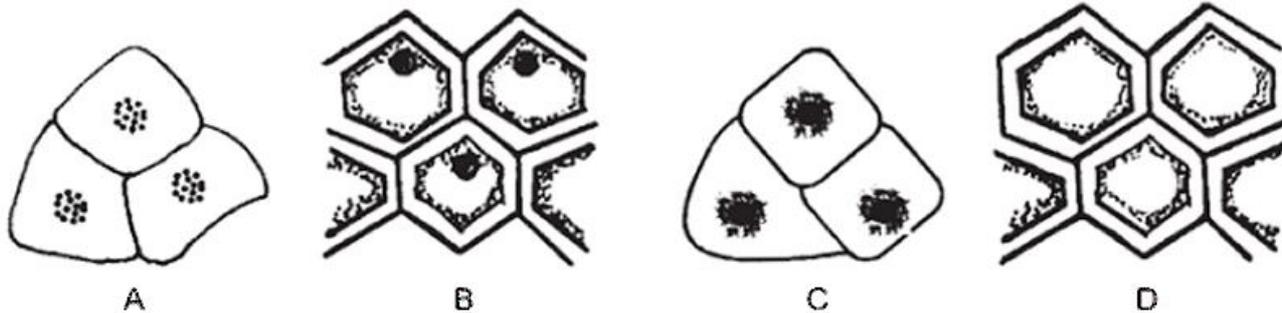
(a) A   (b) B   (c) C   (d) D

30. Part of nerve cell has been drawn here. The correct labeling for 'A' is
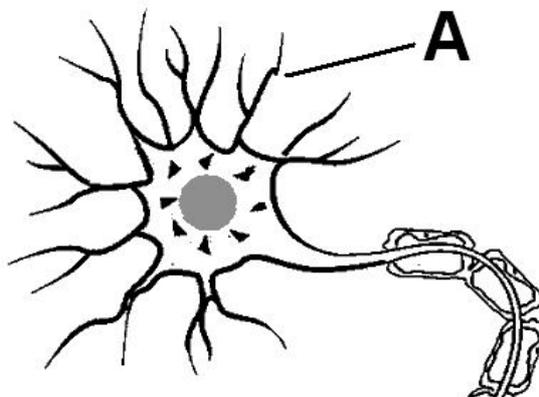
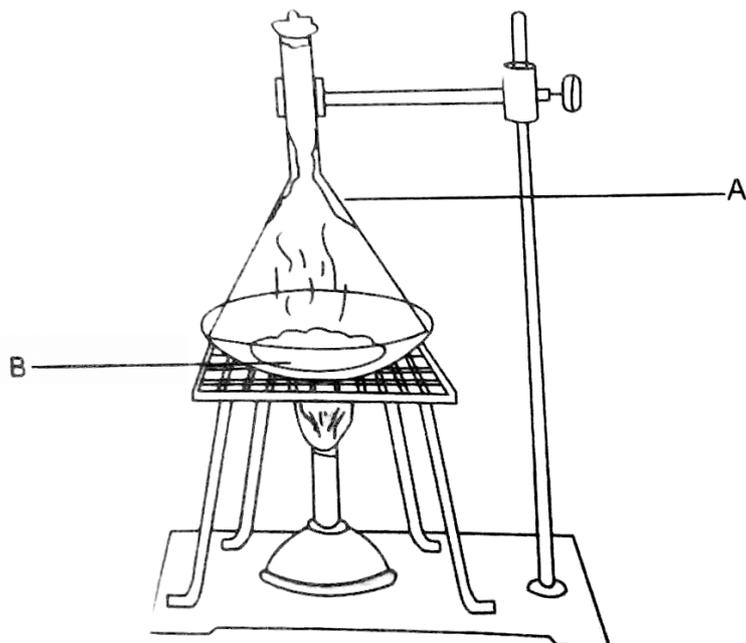(a) cilia   (b) flagella
(c) tentacles   (d) dendrites

31. Reddish Brown deposit obtained on iron nails when kept in a solution of copper sulphate I water is that of:
(a) CuO (b) Cu_2O (c) Cu (d) CuS

**32.** The SI unit of weight is:
(a) gram   (b) Newton   (c) kilogram   (d) Newton meter

33. The parts labelled A and B indicate:

(a) A = Ammonium chloride vapours, B = Sodium chloride
(b) A = Solidified Ammonium chloride, B = Mixture of Ammonium chloride & Sodium chloride
(c) A = Sodium chloride, B = Solidified Ammonium chloride
(d) A = Sodium chloride vapours, B = Ammonium chloride vapours

34. Which of the following is the correct set-up of apparatus to separate common salt and sand by filtration process? Give reason.

Fig. I   Fig. II   Fig. III   Fig. IV
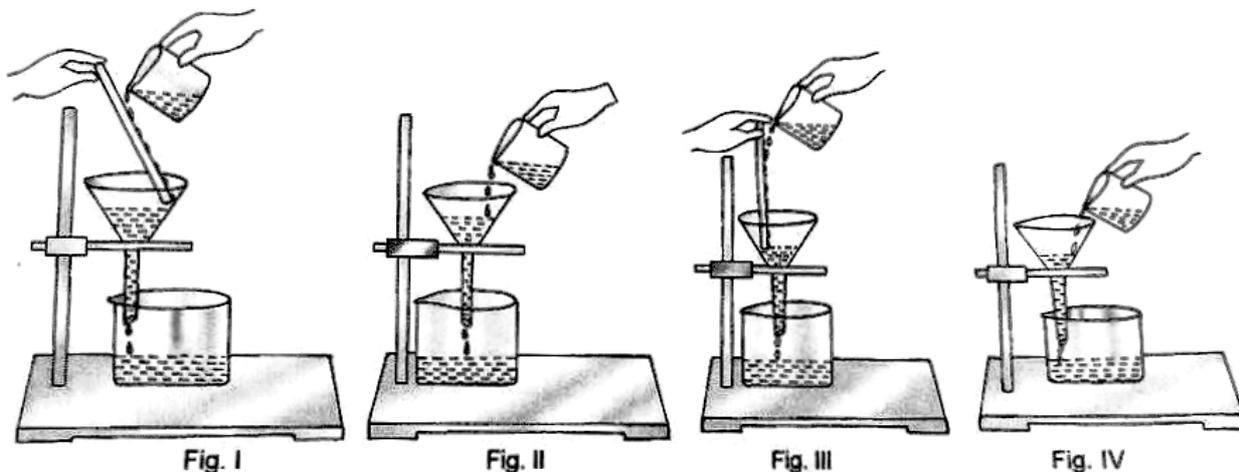
35. What should be the temperature range of the mercury thermometer to be used for determining the melting point of ice? What is the correct position of the thermometer to get accurate reading?

36. While performing an experiment with raisins, a student recorded the following data:
Mass of water taken in the beaker = 50 g
Mass of raisins before soaking = 20 g
Mass of raisins after soaking = 30 g
Mass of water in the beaker left after experiment = 40 g
What is the percentage of water absorbed by the raisins?

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