Goa Board Class IX Science Term 1 Sample Paper - 4

Time: 3 hrs

Total Marks: 90

General Instructions:

- 1. The question paper comprises two Sections, A and B. You are to attempt both the sections.
- 2. All questions are compulsory.
- 3. All questions of **Section A** and all questions of **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

Q. 1 What is the objective of mixed cropping?	(1)
Q. 2 Why is evaporation called a surface phenomenon?	(1)
Q. 3 A particle is moving in a circle of diameter 5 m. What is its displacement when it completes 1 1/2 revolution?	(1)
Q. 4 The gravitational force between two objects is 100 n. How should the distance between the objects be changed so that force between them becomes 50 n?	(2)
Q. 5 Name the elements present in the following compounds: Baking soda and Sugar	(2)



Q. 6 What are the advantages of organic farming?	(2)
Q. 7 Briefly describe the river lift system.	(3)
Q. 8 CO ₂ is a gas. Write any two gaseous properties to justify it. How can we liquefy t gas? Solid CO ₂ is also known as dry ice. Why?	his (3)
Q. 9 'We can easily move our hand in air but not through any solid material'. Justify t statement giving any three possible reasons.	the (3)
Q. 10 Name the type of colloid from the following in which the dispersed phase and dispersing medium are	the (3)

- (a) Liquid and gas
- (b) Liquid and liquid
- (c) Liquid and solid

Give one example of each.

Q. 11 Observe the apparatus shown below and answer the following questions. (3)



- (a) Name the apparatus.
- (b) Write one use of the apparatus.
- (c) State the principle involved in the process.
- Q. 12 The driver of a train A travelling at a speed of 54 km/h applies brakes and the train retards uniformly. The train stops in 5 s. Another train B is travelling on the parallel track with a speed of 36 km/h. This driver also applies the brakes and the train retards uniformly. The train B stops in 10 s. Plot the speed-time graph for both trains on the same graph. Also calculate the distance travelled by each train after the brakes were applied.



- **Q. 13** Two balls A and B of masses 'm' and '2m' are in motion with velocities '2v' and 'v', respectively. Compare (3)
 - (i) Their inertia
 - (ii) Their momentum
 - (iii) The force needed to stop them in the same time
- Q. 14 During the athletic meet of a school, five students namely Ram, Shyam, Atul, Anil and Ajay took part in a 200 metres race. Ram and Anil are fast friends. Anil is a good sportsman, and he wins the first position in the 200 m race every year. The race started and all of a sudden, Shyam changed his track and obstructed Anil. As a result, Anil fell down and could not complete the race. Ram completed the race in 25 seconds and Shyam completed in 28 seconds. However, Anil lodged his protest with the teacher in charge to cancel the event as Shyam played a foul. Ram sided with Anil.

Answer the following questions based on the above paragraph.

- (i) What is the average speed of Ram?
- (ii) Comment on the behaviour of Shyam.
- (iii) What values are shown by Ram?
- Q. 15 At what height above the Earth's surface would the value of acceleration due to gravity be half of what it is on the surface? Calculate. (3)

- (i) Differentiate between diffusion and osmosis.
- (ii) How does a cell membrane form a barrier to and a connection with the adjacent cells?
- **Q. 17** Discuss any three structural features of bone tissue. (3)

Q. 18

- (a) Draw a neat diagram of a plant cell and label the following parts: (3)Cell Well, Nucleus, Vacuole, Golgi apparatus
- (b) Name the energy currency of the cell. Which cell organelle releases this currency?
- Q. 19 Based on the following characteristics, distinguish in tabular form the behaviour of a true solution, suspension and colloidal solution. (5)
 - (a) Appearance
 - (b) Visibility
 - (c) Filterability
 - (d) Tyndall effect
 - (e) Particle size



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Q. 20

- (a) Differentiate between the three states of matter on the basis of the following properties.
- (i) Intermolecular forces and (ii) Arrangement of molecules
- (b) Liquids generally have lower density compared to solids. But you must have observed that ice floats on water. Give reason.

Q. 21

(5)

(5)

- (a) Draw the shape of the velocity-time graph of a uniformly accelerated motion of a body.
- (b) Derive the velocity-position equation of motion ($v^2 = u^2 + 2$ as) graphically with the help of a velocity-time graph.

Q. 22

(5)

- (a) How much momentum will an object of mass 10 kg transfer to the floor, if it falls from a height of 0.8 m? (g = 10 ms^{-2})
- (b) Explain why is it difficult for a fireman to hold a hose, which ejects a large amount of water at a high velocity.
- **Q. 23** (a) Define animal husbandry. List any three basic aspects covered by animal husbandry?

(b) Mention any two basic requirements of shelter facilities for animals so that their health is not affected?

(c) Give two examples of exotic breeds of cows which are selected for long lactation period. (5)

Q. 24 State one point of difference between

(5)

- (a) Skeletal muscles and smooth muscles
- (b) Bone and cartilage
- (c) Tendon and ligament
- (d) Areolar and adipose tissues
- (e) Xylem and phloem tissues



SECTION B

Q. 25 Which property of a gas helps to fill a large volume of liquefied petroleum gas (LP	G)
in cylinders?	(1)
A. High inflammability	
B. High fluidity	
C. High compressibility	
D. Low density	
Q. 26 Which of the following statements is true for colloids?	(1)
A. A colloid is a homogeneous mixture.	
B. Particles of a colloid can be seen by the naked eye.	
C. Particles of a colloid scatter a beam of light passing through it.	
D. All of the above.	
0 . 27 In the spring balances experiment, the total force which pulls each of the springs	
should be equal to	(1)
A. The weight of the pan	(-)
B. The weight of the pan and the weights put in the pan	
C. The weights put in the pan only	
D. The weight of the pan, the weights put in the table and the weight of the table	
Q. 28 In the spring balances experiment, can the action and reaction forces be	
interchangeable on the two springs?	(1)
A. Yes	
B. No	
C. Can't say	
D. Depends on the amount of force applied	
0.29 Which material offers less friction?	(1)
A. Hard board	ĊĴ
B. Glass	
C. Cardboard	
D. Wood mica	
Q. 30 A prepared slide to be viewed under a compound microscope is focused first under	er (1)
A. 15 x	

- A. 15 X
- B. 10 x
- C. 40 x
- D. 100 x



Q. 31 The following diagram gives the structure of a cell. Identify respectively the part labelled as 1, 2, 3 and 4. (1)



A. Axon, Dendrites, Cell Body, Nucleus

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- B. Dendrites, Cell Body, Axon, Nucleus
- C. Axon, Nucleus, Dendrites, Cell Body
- D. Nucleus, Axon, Cell Body, Dendrites
- **Q. 32** Adulterated arhar dal appears yellow due to the presence of

(1)

- A. Saffron
- B. Yellow stones
- C. Metanil yellow
- D. Turmeric
- Q. 33 Anita was performing an experiment with a piece of potato. Accidentally, she dropped a few drops of a solution on the potato and the potato turned blue-black. Name the liquid which was dropped. (1)
 - A. Benedict's solution
 - B. Iodine solution
 - C. Methylene blue
 - D. Phenolphthalein
- Q. 34 Reena identified a given slide as parenchyma tissue. What features she must have noticed in the slide? (2)



- Q. 35 How will you separate a mixture of common salt, sand and ammonium chloride if you are provided with two 200 ml beakers, iron stand, China dish, wire gauge, Bunsen burner, glass rod, cotton wool and glass funnel? (2)
- Q. 36 In the experiment to establish the relationship between the weight of a wooden block lying on a horizontal surface and the minimum force required to just move it using a spring balance, two students performed the experiment with the cuboid of the same dimensions and the same weight. Student A placed the cuboid on sand paper, while Student B placed it on wood mica. What is observed about the applied force in the spring balance. Why? On what principle is the working of a spring balance based on? (2)