Goa Board
Class IX Science
Term 2
Sample Paper – 8

Time: 3 hrs **Total Marks: 90**

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. All the 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 one sentence.
5. Question numbers **4** to **6** in **Section - A** are **two marks** questions, to be answered in about **30 words each**.
6. Question number **7** to **18** in **Section-A** are **three marks** questions, to be answered in about **50 words**.
7. Question number **19** to **24** in **Section-A** are **five marks** questions, to be answered in about **70 words**.
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 **two marks** questions based on practical skills.

SECTION-A

1. 1horse power = _____ watts [1]

2. Classify the following molecules as tetra-atomic and penta-atomic molecules: H_2O_2, $CHCl_3$ [1]

3. Which cycle is known as the perfect cycle in biosphere? Why? [1]

4. [2]

(a) What is the scientific name of the 'upward force' acting on an object immersed in any liquid?

(b) What is the principle of floatation?

5. Why cotyledons are called seed leaves? [2]

6. A 0.24 g sample of a compound of oxygen and boron was found by analysis to contain 0.096 g of boron and 0.144 g of oxygen. Calculate the percentage composition of both the compounds by weight. [2]

7. [3]

(a) How is the use of a large amount of fertilizers and pesticides harmful?

(b) Name any two green house gases.

8. [3]

(a) Define work. Write the SI unit of work.

(b) State the relation between kilowatt-hour and joule?

9. [3]

(a) List the factors on which the speed of sound depends.

(b) A person is listening to a sound of 500 Hz sitting at a distance of 450 m from the source of sound. What is the time interval between successive compressions from the source of sound?

10. Calculate the work to be done on an object of mass 120 kg in order to increase its speed from 25 m/s to 40 m/s. [3]

11. What kind of energy is possessed by the following and why? [3]

(a) A wound spring of a clock

(b) A stretched bow

(c) A bullet fired from a gun

12. State the laws of reflection of sound. Give any two applications based on the reflection of sound. [3]

13. Calculate the number of moles in the following: [3]

(a) 28 g of He

(b) 46 g of Na

(c) 60 g of Ca

(Atomic mass of He = 4g, Na = 23g, Ca = 40g)

14. What do you understand by primitive and advanced organisms? Explain with the help of examples. [3]

15. Julie was not able to understand the atomic models taught in class. When she came back home, her mother served her a pudding cake filled with dry fruits. And as soon as she saw the cake, she understood one of the atomic models. [3]
(a) Which model is understood by Julie?
(b) What are the features of this model?
(c) What are the limitations of this model?

16. Draw a diagram of the oxygen cycle. [3]

17. What are the different causes of a disease? Define vectors. [3]

18. [3]
(a) What is incubation period?
(b) Name any two diseases for which vaccines are available.

19. [5]
(a) Write any three points of differences between acute and chronic diseases.
(b) Which type of diseases causes more damage to our body chronic or acute? Why?

20. [5]
(a) What is meant by potential energy of a body?
(b) A body of mass 'm' is raised to the same vertical height 'h' but through two different paths. What will be the potential energy of the body in the two cases? Justify your answer.
(c) The kinetic energy of an object of mass, 'm' moving with a velocity of 5 m/s is 25 J. What will be its kinetic energy when its velocity is doubled?

21. [5]
(a) What do you mean by audible range?
(b) A solid object weighs 30 g in air and 26 g when completely immersed in liquid of relative density 0.8. Find:
i. Volume of the solid
ii. Relative density of solid

22. Describe distribution of electrons in Bohr's Atomic Model. [5]

23. [5]
(a) Why does the percentage of gases like oxygen, nitrogen and carbon dioxide remain almost the same in the atmosphere?
(b) What is the difference between nitrification and denitrification?
(c) What has caused balance in nature?

24. [5]

(a) Define the following terms:

i. Lichens

ii. Cryptogams

iii. Phanerogams

(b) Why is Monera considered to be the kingdom which evolved first?

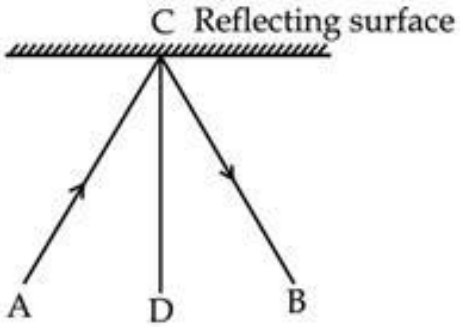
(c) Why are fungi regarded as saprophytes?

SECTION-B

25. In the experimental setup of reflection of sound, if we place the porous surface at the back of the hollow tubes then: [1]

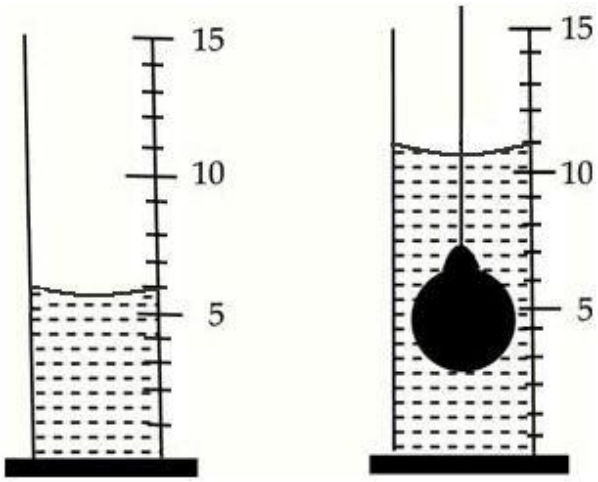
(a) Sound will be heard with greater intensity than the incident sound.
(b) Sound will be heard with lesser intensity than the incident sound.
(c) No reflection of sound takes place.
(d) Reflected sound will remain same as incident sound.

26. A student draws a line diagram for the verification of laws of reflection of a sound wave as given below. At which point should the source of sound be placed? [1]



(a) A
(b) B
(c) C
(d) D

27. Water is filled in a measuring cylinder as shown in the figure given below. A solid of mass 4 g is immersed in it due to which the water level rises. Observe the markings of the water level before and after the solid object was immersed and calculate the density of the solid object. [1]



(a) 4g cm^{-3}
(b) 8 g cm^{-3}
(c) 20 g cm^{-3}
(d) 0.8 g cm^{-3}

28. Which of the following is a characteristic feature of ferns? [1]
(a) They have male and female cones
(b) They have rhizoids
(c) They have needle shaped leaves
(d) Their body is differentiated into root, stem and leaves

29. Choose the option that best describes the feature of Spirogyra: [1]
(a) Multicellular, auto trophic, root like rhizoids
(b) Cytoplasmic strands, autotrophic, presence of rhizome
(c) Presence of male cones, nonvascular filaments
(d) Filamentous, presence of cytoplasmic strands, presence of pyrenoids

30. A teacher gives a slinky to four students A, B, C, and D, and asks them to produce transverse waves by fixing one of its ends and moving the other free end. The following are the methods adopted by the four students:

i. Student A moved it up and down.
ii. Student B twisted its coils
iii. Student C moved it back and forth along its length.
iv. Student D moved it left and right.

Which of the four students adopted the correct method? [1]

(a) B
(b) D
(c) A
(d) C

31. Students have to perform an experiment to find loss of weight of different solids in tap water and salty water. Rakesh collected the following materials for the experiment:- a wooden block, a measuring cylinder, a spring balance, two solids, laboratory stand, thread, tap water, salty water.

Which material is missed by Rakesh? [1]

(a) Beaker
(b) Petri dish
(c) Test tube
(d) Overflow can

32. Rita measured the pressure exerted by a cuboid on sand bed, Rita has to write down her observation but she is confused about the unit in which pressure is expressed. The correct choice would be: [1]

(a) N-m
(b) Nm^{-1}
(c) Nm^{-2}
(d) Nm^{2}

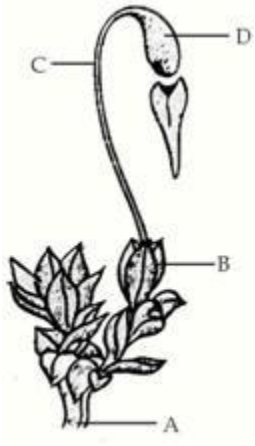
33. A student heats 25g of reactant 'A' with 50g of reactant 'B' in a corked conical flask. He obtains 25g of product 'C' and recovers 25 g of unreacted 'A'. Which of the following law is confirmed in the following reaction? [1]

(a) Law of multiple proportion
(b) Law of constant proportion
(c) Law of conservation of mass
(d) Law of conservation of mass and Law of constant proportion

34. A strong transverse horizontal pulse, created at one end of a string is observed to complete 5 journeys along its length, before fading out. The initial reading of the stop clock used in the experiment was 5 s and the final reading was 55 s. If the length of the string for one journey is L metre, the speed of the pulse through the string is: [2]

(a) (L/55) ms^{-1}
(b) (L/50) ms^{-1}
(c) (L/11) ms^{-1}
(d) (L/10) ms^{-1}

35. The given figure is of Funaria - moss plant. The parts indicated by letters A, B, C and D represent: [2]



(a) (A) Foot (B) Rhizoids (C) Seta (D) Capsule
(b) (A) Rhizoids (B) Foot (C) Seta (D) Capsule
(c) (A) Rhizoids (B) Seta (C) Foot (D) Capsule
(d) (A) Foot (B) Seta (C) Rhizoids (D) Capsule

36. 6.4g of $MgCO_3$ on heating gave 2.88g MgO and 3.52g CO_2. Show that these observations are in agreement with the law of conservation of mass. [2]