

**CBSE**  
**Class IX Science**  
**Term 2**  
**Sample Paper – 10**

**Time: 3 hrs**

**Total Marks: 90**

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**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.
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**SECTION A**

1. Give an example where a body acquires potential energy due to change in its shape. [1]
2. What is the mass of 4 moles of Al atoms? [1]
3. What are green houses? [1]
4. What are isobars? Explain with an example. [2]
5. [2]
  - (a) State Archimedes' Principle.
  - (b) A cork piece floats on water but an iron nail sinks in water. Explain why?

6. [2]  
(a) What is Polymorphism?  
(b) Which divisions of the plant kingdom are called cryptogams? Why are they called so?
7. [3]  
(a) What is meant by atmosphere?  
(b) Name any two activities of man which are responsible for the changes in the environment.
8. [3]  
(a) Two bodies of different masses have equal kinetic energy. Which one of the two will have greater velocity?  
(b) Explain why the mountain roads are not straight but wind up gradually?  
(c) 1 horse power is equal to how many watts?
9. [3]  
(a) What is reverberation? How can it be reduced?  
(b) What do you understand by the term infrasonic sound?
10. [3]  
(a) How is ultrasound used in industries for cleaning?  
(b) What is a crest?
11. [3]  
(a) Define potential energy.  
(b) At what height, will an object of mass 1 kg have a potential energy of 1 J relative to the ground?
12. [3]  
(a) Can sound travel through vacuum?  
(b) Explain why the flash of a gunshot reaches us first and the sound of the gunshot is heard a little later.
13. Calculate the ratio of moles of 3.6 g of water and 4.4 g of carbon dioxide. Atomic mass of C = 12 u, H = 1 u, O = 16 u. [3]
14. State the type of cells Monerans have. Explain their structure and the types of nutrition they have. [3]

- 15.** [3]  
(a) Why is a large part of the atom neglected while calculating the mass of the atom?  
(b) Give reason why atoms combine with each other?  
(c) In the notation of an atom, how are the atomic number, mass number, and symbol of the element written?
- 16.** [3]  
(a)  
i. How can you say that malaria parasite is tissue specific?  
ii. Why malaria can be cured by antibiotics?  
(b) What are congenital diseases?
- 17.** Who is responsible for maintaining the community health? How? List any three points. [3]
- 18.** Why does a man suffering from an acute disease suffer less than a man suffering from a chronic disease? [3]
- 19.** [5]  
(a) Give any two examples of antibiotics.  
(b) Expand BCG.  
(c) "It is difficult to make antiviral medicines than making antibiotics". Justify this statement.
- 20.** [5]  
(a) A man rowing a boat upstream is at rest with respect to the shore. Is he doing work?  
(b) What will cause greater change in kinetic energy of a body; change in its mass or change in its velocity?  
(c) A truck and a car are running at the same speed. If the mass of the truck is 10 times that of the car, calculate the ratio of kinetic energy of the truck with respect to the car.
- 21.** [5]  
(a) List three characteristics of sound waves. State the factors on which each of these characteristics depends.  
(b) A sound wave has a frequency of 2 kHz and wavelength 35 cm. How long will it take to travel a distance of 1.5 km?
- 22.** [5]  
(a) Describe Rutherford's nuclear model of atom.  
(b) How is the valency of an atom related to its electronic configuration?  
(c) Write the electronic configuration of the elements whose atomic numbers are 5, 7, 17 and 19 respectively.

**23.** [5]

- (a) What are decomposers?
- (b) Give their roles in ecosystem.
- (c) What is the name of organisms found in the nodule of leguminous plants?
- (d) Explain the various forms in which carbon is found on the Earth.

**24.** [5]

- (a) What types of characteristics are possessed by the Chordates? Give three points.
- (b) Why fungi and bacteria are considered as plants even though they do not have chlorophyll?
- (c) What is notochord?

### **SECTION B**

**25.** While performing the experiment to study and verify the laws of reflection of sound, which of following precautions should not be followed? [1]

- (a) The table top should be horizontal.
- (b) Length of pipes should be sufficiently long.
- (c) The reflecting surface should be smooth and hard.
- (d) Ear should not be placed close to the pipe.

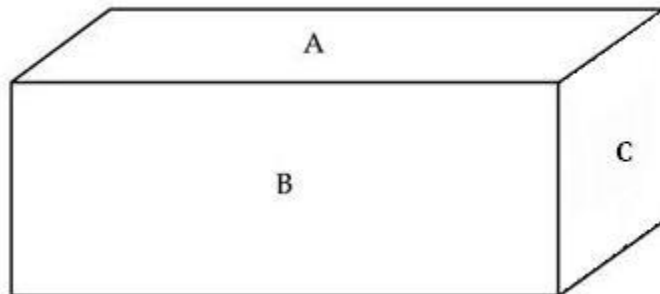
**26.** A metal piece of mass 110 g is immersed in a measuring cylinder containing 24 ml of water. After immersing the metal piece, the water rises to 38 ml mark. The volume and density of the metal respectively are: [1]

- (a) 14 ml, 7.85 g / cm<sup>3</sup>
- (b) 14 ml, 7g / cm<sup>3</sup>
- (c) 38 ml, 6 g / m<sup>3</sup>
- (d) 24 ml, 1.2g / cm<sup>3</sup>

**27.** Mohit was provided with a sphere of weight 0.5 N and four measuring cylinders A, B, C and D; each containing 100ml of tap water. He mixed 15g, 50g and 75g of salt in cylinders B, C and D respectively. He then measured the weight of the sphere by immersing it in cylinder A, B, C and D successively. In which cylinder will maximum loss in weight occur? [1]

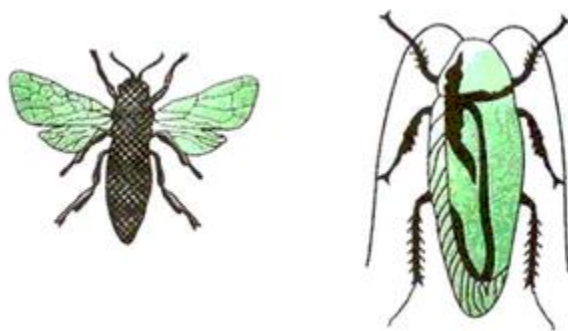
- (a) A
- (b) B
- (c) C
- (d) D

- 28.** A rectangular iron block with length, breadth and height of 50 cm, 25 cm and 10 cm is kept on a sand bed. A student observed and compared the pressure exerted by the block by placing the sides A, B and C on a fine sand bed. [1]



- Which of the observations regarding the depression formed on the sand bed is correct?
- (a) Face A showed greatest depression.
  - (b) Face B showed greatest depression.
  - (c) Face C showed greatest depression.
  - (d) All the faces showed same depression.
- 29.** The total energy of an object that falls freely towards the Earth \_\_\_\_\_. [1]
- (a) increases
  - (b) remains constant
  - (c) decreases
  - (d) first decreases and then increases
- 30.** What is the angle between the force and displacement in case of negative work? [1]
- (a)  $180^\circ$
  - (b)  $90^\circ$
  - (c)  $45^\circ$
  - (d)  $0^\circ$
- 31.** Valency of hydrogen is 1 and that of sulphur is 2. What should be the formula of hydrogen sulphide? [1]
- (a) HS
  - (b) HS<sub>2</sub>
  - (c) H<sub>2</sub>S
  - (d) H<sub>2</sub>S<sub>2</sub>

32. Observe the pictures of honeybee and cockroach. The common feature that assigns them to the same phylum is [1]



- (a) Wings
  - (b) Three pairs of legs
  - (c) Joint appendages
  - (d) Antennae
33. Mosquito belongs to the phylum [1]
- (a) Arthropoda
  - (b) Annelida
  - (c) Mollusca
  - (d) Chordata
34. A student identified the following features while observing the eggs in the life cycle of a mosquito. Which of the observations is incorrect? [2]
- (a) Eggs are oblong shaped and are clumped.
  - (b) Eggs are separated round shaped, bigger in size.
  - (c) Eggs are separated, oval shaped smaller in size.
  - (d) Eggs are clustered, bead like structure.
35. In a chemical reaction, 4.2 g of sodium hydrogen carbonate reacted with 3.0 g of ethanoic acid. The products obtained were 4.1 g of sodium ethanoate, 0.9 g of water and 2.2 g of carbon dioxide. Which law of chemical combination is illustrated by this data? Give reason for your choice. [2]
36. Given are some activities. Identify giving reasons whether or not work is done in each case. [2]
- (a) The green plants in the garden that carry out the process of photosynthesis.
  - (b) A bullock cart carrying load.
  - (c) The harvested crops getting dried in the Sun.
  - (d) A paper boat moving in the pond due to wind energy.