

**Nagaland Board
Class IX Science
Sample Paper 1****Time allowed: 3 hours****Maximum Marks: 80****General Instructions:**

1. The question paper consists of 26 questions.
2. All questions are compulsory.
3. Internal choices have been provided in some questions.
4. Marks allocated to every question are indicated against it.

1) Choose the correct answer from the given alternatives:

- (a) Which cell organelle is analogous to a power station? 1
(i) Golgi body
(ii) Lysosomes
(iii) Endoplasmic Reticulum
(iv) Mitochondria
- (b) Which of the following functions is carried out by phloem? 1
(i) Photosynthesis
(ii) Mechanical support
(iii) Transport of water
(iv) Transport of food
- (c) Which of the following functions is carried out by phloem? 1
(i) Phylum Arthropoda
(ii) Phylum Echinodermata
(iii) Phylum Mollusca
(iv) Phylum Nematoda
- (d) Which of the following system of the human body is affected by HIV? 1
(i) Respiratory System
(ii) Digestive System
(iii) Immune System
(iv) Cardiovascular System
- (e) Which of the following scientists discovered neutrons? 1
(i) J. Chadwick
(ii) J.J. Thomson
(iii) Ernest Rutherford
(iv) John Dalton

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- (f) The modern periodic table contains **1**
(i) 15 groups
(ii) 18 groups
(iii) 16 groups
(iv) 17 groups
- (g) 1 mole of water molecule has **1**
(i) 2 moles of oxygen atoms
(ii) 2 moles of hydrogen atoms
(iii) 1 mole of hydrogen atom
(iv) 2 moles of hydrogen molecule
- (h) What is the nature of slope of a distance-time graph when an object is at rest? **1**
(i) 0
(ii) 1
(iii) Increases continuously
(iv) Decreases continuously
- (i) The instrument used for measuring the density or relative density of liquids is known as **1**
(i) Spherometer
(ii) Hydrometer
(iii) Buoyancy meter
(iv) Mercury meter
- (j) If a force of 1 N is acting on an object that is moving through 10 m in a direction perpendicular to the force, then the work done is **1**
(i) 1J
(ii) 10J
(iii) 100J
(iv) 0

Answer the following questions in one word or one sentence:

- 2)** What are α -particles? **1**
3) What is the difference between $2O$ and O_2 ? **1**
4) What is reverberation? **1**
5) Tapeworm is triploblastic". What does it mean? **1**
6) Name two breeds of cows selected for long lactation period. **1**

Answer the following questions in about 20-30 words:

- 7)** Why is position assigned to hydrogen in the modern periodic table considered anomalous? **2**

- 8)** What are the different types of ions formed by iron? Give their names and valency. **2**
- 9)** State Archimedes' principle. Give two applications based on the principle. **2**
- 10)** Poultry in India is the most efficient converter of low-fibre food into highly nutritious protein food. Justify the statement. **2**
- 11)** Name the tissue present in the hard covering of seeds. Which chemical is responsible for making the tissue hard? **2**

Answer the following questions in about 40-60 words:

- 12)** State uses of velocity-time graph for a moving body. **3**
- 13)** Although a stone and the Earth attract each other with equal force, why do we observe that only the stone falls towards the Earth but not the Earth rising towards the stone? Explain. **3**
- 14)** A wooden cuboid has mass of 8 kg. The length, breadth and height of this wooden cuboid are 100 cm, 50 cm and 20 cm, respectively. Find the pressure on the floors on which this block is kept. **3**

OR

Calculate the force of gravitation due to the Earth on a ball of 2 kg mass lying on the floor. Consider the mass of Earth = 6×10^{24} kg, radius of Earth = 6400 km and universal gravitation constant $G = 6.7 \times 10^{-11} \text{ Nm}^2/\text{kg}^2$.

- 15)** Work done by a force is given by the equation $W = F \cos \Theta \times s$. Determine and explain the effect of work done due to a gradually increasing angle ' Θ '. **3**
- 16)** A stone is dropped into a well 44.1 m deep and the sound of splash is heard after 3.13 s. Find the speed of sound in air. **3**
- 17)** A silver ornament of mass 'm' gram was polished with gold equivalent to 1% of the mass of silver. Calculate the ratio of the number of atoms of gold and silver in the ornament. **3**

OR

Write the chemical formula of the following using the criss-cross method:

- Ammonium sulphate
- Magnesium bicarbonate
- Barium nitrate

- 18)** What are the rules for writing the chemical formulae? **3**
- 19)** Explain any three methods of weed control **3**
- 20)** We know that carbon dioxide is essential for plants for photosynthesis. Yet, why do we consider it a pollutant? **3**
- 21)** Why does the skin of your fingers shrink when you wash clothes for a long time? **3**

Answer the following questions in about 70-100 words:

- 22)** **5**
- (a) Define the terms and give one example of each:
- (i) Bilateral symmetry
 - (ii) Coelom
 - (iii) Diploblastic
- (b) Identify the group of animals with
- (i) Spiny body and radial body symmetry
 - (ii) Four pairs of jointed legs and no wings
- 23)** **5**
- (a) Work done by a force is given by the equation $W = F \cos \Theta \times s$. Determine and explain the effect of work done due to a gradually increasing angle ' Θ '. **3**
- (b) A car is being driven by a force of 5×10^{10} N. It takes two minutes with the speed of 10 m/s for this car to reach the river side. Calculate the work done. **2**
- 24)** Distinguish between true solution and colloid. **5**
- OR**
- (a) What is an octet? How does an element reach an octet state?
- (b) Draw a schematic atomic structure of magnesium and phosphorus (Number of protons of magnesium = 12, phosphorus = 15).
- 25)**
- (a) A man weighs 300 N on the surface of the Earth. If he were taken to the Moon, his weight would be 50 N. Calculate the mass of this man on the Moon ($g = 10 \text{ m/s}^2$). **3**

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(b) A man hears an echo of thunder 2 seconds after lightning strikes. Calculate the distance of lightning from the man (Speed of sound in air = 330 m/s). **2**

26)**5**

- (a) How does cork act as a protective tissue?
(b) Observe the figure carefully and label the parts marked A and B

