

**Nagaland Board
Class IX Science
Sample Paper 2**

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) Who gave the Law of constant proportion? **1**
(i) Dalton
(ii) Lavoisier
(iii) Cavendish
(iv) Proust
- (b) Thomson's model of an atom was proved wrong by which scientist? **1**
(i) Rutherford
(ii) Bohr
(iii) Goldstein
(iv) Dalton
- (c) Unsaturated carbon compounds on combustion give **1**
(i) Yellow sooty flame
(ii) Intense white flame
(iii) Green flame
(iv) Clean blue flame
- (d) An element having electronic configuration 2, 8, 18, 3 belongs to which group of the Modern Periodic Table? **1**
(i) 13th group
(ii) 3rd group
(iii) 18th group
(iv) 15th group
- (e) The linear distance between two consecutive centres of compressions in a sound wave is known as **1**
(i) Amplitude
(ii) Frequency
(iii) Wave velocity

- (iv) Wavelength
- (f) Potential energy is the energy possessed by an object due to its **1**
(i) motion
(ii) speed
(iii) position
(iv) weight
- (g) Which of the following substances are not stored in vacuoles? **1**
(i) Amino acids
(ii) Sugars
(iii) DNA
(iv) Proteins
- (h) Identify the voluntary muscles. **1**
(i) Heart muscles
(ii) Muscles of intestine
(iii) Muscles in bronchi of lungs
(iv) Finger muscles
- (i) The most primitive seed plants are **1**
(i) Gymnosperms
(ii) Pteridophytes
(iii) Angiosperms
(iv) Bryophytes
- (j) Which of the following is not a chronic disease? **1**
(i) Cold and cough
(ii) Tuberculosis
(iii) Elephantiasis
(iv) AIDS

Answer the following questions in one word or one sentence:

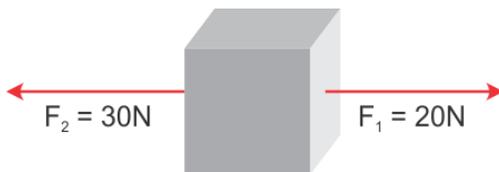
- 2)** Why evaporation is called surface phenomena? **1**
- 3)** Why did Rutherford select a thin sheet of gold foil for his experiment? **1**
- 4)** What can you say about the motion of an object whose distance-time graph is a straight line parallel to the time axis? **1**
- 5)** Peculiar water vascular system is a characteristic feature of which phylum? **1**
- 6)** Give any four locations where the smooth muscles are found. **1**

Answer the following questions in about 20-30 words:

- 7) Oxygen always makes up $\frac{8}{9}$ of the mass of pure sample of water. This corresponds to which law? What is the combining ratio of Hydrogen by mass in water? **2**
- 8) Give chemical equation and product formed when ethanol is treated with sodium metal. **2**
- 9) Explain any two factors affecting the value of g . **2**
- 10) Why do we get a crunchy and granular feeling when we chew pears? **2**
- 11) What is immunization? List two diseases against which vaccines are available. **2**

Answer the following questions in about 40-60 words:

- 12) Two forces F_1 and F_2 are acting on an object as shown. **3**



- (i) What is the net force acting on the object?
- (ii) What is the direction of the net force acting on the object?
- (iii) If the mass of the object is 10 kg, then what will be the acceleration produced in it?
- 13) **3**
(a) How is ultrasound used for cleaning?
(b) What is a crest?
- 14) Is it possible that an object is in the state of accelerated motion due to external force acting on it but no work is being done by the force? Explain with an example. **3**
- 15) Why do passengers in the bus tend to lean forward when it stops suddenly? **3**
- 16) Derive the equation for uniform accelerated motion for the displacement covered in its n th second of its motion. ($S_n = u + a (n - \frac{1}{2})$) **3**

- 17)** Ethanol is used on a large scale at commercial level. It is commonly called alcohol and is the active ingredient of alcoholic drink. But, consumption of alcohol also causes drunkenness and this practice is socially condemned. As a responsible student of class X, what steps you would take to discourage the use of alcohol? **3**
- 18)** Calculate the number of atoms in 125 g of calcium and 130 g of iron. Which one has more number of atoms and how much is the difference? **3**
(Given atomic mass of calcium = 40 μ , iron = 56 μ)
- OR**
- In a reaction, 5.6 g of sodium carbonate reacted with 7 g of ethanoic acid. The products were 2.8 g of carbon dioxide, 0.7 g of water and some sodium ethanoate. What is the expected weight of sodium ethanoate?
- 19)** Explain the advantages and disadvantages of mixed cropping. **3**
- 20)** Whales and fish resemble each other and both swim in water. Yet, why are whales not grouped with fish? **3**
- 21)** Which cell organelles are called the power houses of the cell and why? Why ATP is called energy currency of the cell? **3**

Answer the following questions in about 70-100 words:

- 22)** **5**
(a) Mention the postulates of Bohr's theory.
(b) What are the failures of Thomson's atomic model?
- 23)**
(a) What is retardation? Write its formula. Give an example where it acts on a body. **3**
(b) A train starting from rest attained a velocity of 30 m/s in 30 minutes. What is its acceleration? **1**
(c) What is the distance travelled during this time? **1**
- 24)** **5**
(a) With the help of a neat and labelled diagram show the cycling of carbon in nature.
(b) What are the two ways in which carbon dioxide is fixed in the environment?

25)

- (a) It was diagnosed that Kiran has hepatitis. **3**
- (i) Which organ of Kiran's body is affected?
- (ii) How are antibiotics effective in the treatment of some diseases?
- (iii) Will they help in curing Kiran's disease? Why?
- (b) 'Prevention of a disease is more desirable than its treatment'. Justify this statement. **2**

26)

5

- (a) What is coelom? State its significance.
- (b) Pick out the organisms that have a pseudocoelom from the following: earthworm, pinworm, tape-worm and roundworm.
- (c) What is peculiar about the coelom of Arthropods? What is such a condition called? Explain.
- (d) To which phylum of Animalia do the following animals belong to: octopus, pila, chiton and unio? Comment on their coelom.