Mizoram Board
Class IX Science
Sample Paper 2

Time allowed: 3 hours **Maximum Marks: 70**

General Instructions:

1. The question paper consists of 39 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.

Choose the correct answer from the given alternatives: **1 X 14=14**

1. Name the stain which is used to observe human cheek cells.
(i) Safranin
(ii) Iodine
(iii) Methylene blue
(iv) Metanil yellow

2. Which connective tissue can provide a large amount of energy?
(i) Bone
(ii) Areolar tissue
(iii) Blood
(iv) Adipose tissue

3. Comb jellies belong to
(i) Porifera
(ii) Cnidaria
(iii) Ctenophora
(iv) Platyhelminthes

4. Which of the following is a viral disease?
(i) Anthrax
(ii) Rabies
(iii) Cancer
(iv) Syphilis

5. In terrestrial areas temperature and rainfall is affected by
(i) Translocation
(ii) Transpiration
(iii) Guttation
(iv) Absorption

6. Which of the following shells can have maximum of 2 electrons?
(i) K shell
(ii) L shell
(iii) M shell
(iv) N shell

7. Which one of the following elements is most reactive?
(i) Helium
(ii) Neon
(iii) Argon
(iv) Carbon

8. 9 grams of water decompose to give
(i) 1 g hydrogen and 8 g oxygen
(ii) 3 g oxygen and 6 g hydrogen
(iii) 4 g oxygen and 16 g hydrogen
(iv) 2 g hydrogen and 1 g oxygen

9. Which of the following parameters of a substance does not alter during a physical change?
(i) Size
(ii) State
(iii) Mass
(iv) Volume

10. In laboratory, what precautions have to be taken with carbon disulphide?
(i) should be kept away from flame
(ii) should be kept away from carbon
(iii) should be kept away from distilled water
(iv) should be kept away from iron sulphide

11. Which of the following describes how fast an object is moving and which describes how fast an object is moving in a particular direction?
(i) speed, velocity
(ii) rate, speed
(iii) rate, velocity
(iv) speed, acceleration

12. Principle of conservation of momentum is the corollary of
(i) Newton's first law
(ii) Newton's second law
(iii) Newton's third law
(iv) Gravitational law

13. If we want to determine the volume of a solid by immersing it in water, the solid should be
(i) lighter than water
(ii) heavier than water
(iii) insoluble in water
(iv) heavier than water and insoluble in it

14. When a ball is thrown vertically upwards its velocity keeps on decreasing. What happens to its kinetic energy when it reaches the maximum height?
(i) Kinetic energy is maximum at maximum height
(ii) Kinetic energy is half the initial value
(iii) Kinetic energy is zero
(iv) Kinetic energy is double

Answer the following questions in one word or one sentence: 1 X 7=7

15) What is the acceleration in the case of uniform velocity?
16) Why a fan continues to move for sometime even after it has been switched off?
17) Which part of the ear contains the actual hearing organ?
18) Name the subatomic particles of an atom present inside the nucleus.
19) For which compounds Law of conservation of mass does not hold good?
20) Name two fresh initiatives taken to increase the water availability for agriculture.
21) What happens when dry apricots are left in water for some time and then transferred to sugar solution?

Answer the following questions in about 20-30 words: 2 X 8=16

22) Name the tissue present in the hard covering of seeds. Which chemical is responsible for making the tissue hard?

23) What is meant by the term 'green manure'? State its role in agriculture.

Or

Poultry in India is the most efficient converter of low-fibre food into highly nutritious protein food. Justify the statement.

24) What are nematocysts? What are their functions?

25) A rubber band changes its shape on stretching, then why is it called a solid?

26) When sugar is added in a cup of tea, does the volume of tea increase?

27) Two masses m and 2m are dropped from heights h and 2h. On reaching ground, which will have a greater kinetic energy and why?

28) A string to which an object is suspended extends. When the object is completely immersed in water the extension of thread decreases. Justify.

29) Velocity of sound in a given medium is constant. Explain.

Answer the following questions in about 40-60 words: **3 X 7=21**

30) Name the following:
(a) Cell organelle which synthesises proteins.
(b) Type of plastid which stores food.
(c) Site for ribosome formation.

31) Write the most striking feature of the following phyla:
(a) Arthropoda
(b) Annelida
(c) Porifera

Or

How are amphibians different from reptiles? List any three points of differences.

32) Whales and fish resemble each other and both swim in water. Yet, why are whales not grouped with fish?

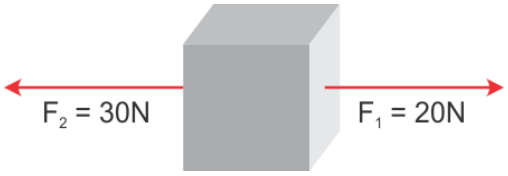
33) Explain why the Tyndall effect can be observed when light passes through a canopy of a dense forest.

34) 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 = 40μ, 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?

35) Two forces F_1 and F_2 are acting on an object as shown.



(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?

36) A man gets into a boat floating in water.

(i) What happens to the boat?

(ii) What happens to the weight of the water displaced by the submerged part of the boat?

(iii) Does the buoyant force acting on the boat increase or decrease? Justify your answer.

Answer the following questions in about 70-100 words: 4 X 3=12

37)

(a) Mention the postulates of Bohr's theory.

(b) What are the failures of Thomson's atomic model?

38)

(i) A box is pulled across a floor by applying a force of 50 N at an angle of 60° above the horizontal. How much work is done by the applying force in pulling the box to a distance of 6 m?

(ii) Two spheres of the same size but of different materials, rubber and iron, are kept on the smooth floor of a moving train. The driver suddenly applies brakes and the train stops. Will the spheres start rolling? If so, in which direction? Will they move with the same speed? Give reasons for your answer.

39)

(a) It was diagnosed that Kiran has hepatitis.

(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.