

**Mizoram Board
Class IX Science
Sample Paper 1**

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. Which cell organelle is analogous to a power station?
(i) Golgi body
(ii) Lysosomes
(iii) Endoplasmic reticulum
(iv) Mitochondria
2. Which of the following shells can have maximum of 2 electrons?
(i) K shell
(ii) L shell
(iii) M shell
(iv) N shell
3. Which one of the following is the modern symbol of Gold?
(i) Go
(ii) G
(iii) Ag
(iv) Au
4. Boiling point of liquid A is 25°C and that of liquid B is 40°C. Which technique will you use to separate these miscible liquids?
(i) Simple distillation
(ii) Fractional distillation
(iii) Centrifugation
(iv) Using a separating funnel

- 5.** The temperature at which a liquid changes into its gaseous form is called
- (i) melting point
 - (ii) boiling point
 - (iii) freezing point
 - (iv) triple point
- 6.** Identify the voluntary muscles.
- (i) Heart muscles
 - (ii) Muscles of intestine
 - (iii) Muscles in bronchi of lungs
 - (iv) Finger muscles
- 7.** Presence of specialised tissues for conduction of water and other substances were first seen in which land plants?
- (i) Bryophytes
 - (ii) Pteridophytes
 - (iii) Gymnosperms
 - (iv) Thallophytes
- 8.** Which of the following is not a symptom?
- (i) Headache
 - (ii) Cough
 - (iii) Swelling
 - (iv) Meningitis
- 9.** The organisms responsible for returning nutrients to the ecosystem include
- (i) Plants
 - (ii) Bacteria and fungi
 - (iii) Parasitic algae
 - (iv) Macroscopic animals
- 10.** A quantity has a value of -16m/s^2 . What does it represent?
- (i) Speed of an object
 - (ii) Velocity of an object
 - (iii) Acceleration of an object
 - (iv) Retardation of an object
- 11.** Which of the following will have the largest inertia?
- (i) Pin
 - (ii) Pencil box
 - (iii) Book
 - (iv) Car

- 12.** The sea water is denser than fresh water due to
- (i) Evaporation
 - (ii) Mixing of sand
 - (iii) Mixing of salts
 - (iv) Stagnation
- 13.** Which of the following is not an example of potential energy?
- (i) A moving car
 - (ii) Water stored in the reservoir of dam
 - (iii) A compressed spring
 - (iv) A stretched rubber band
- 14.** In which of the following gases is the sound speed maximum?
- (i) Air
 - (ii) Hydrogen
 - (iii) Carbondioxide
 - (iv) Helium

Answer the following questions in one word or one sentence:

1 X 7=7

- 15)** Do the medium particles have permanent displacement in wave motion?
- 16)** Name two devices which convert electrical energy into mechanical energy.
- 17)** State the Law of Conservation of Momentum.
- 18)** Why evaporation is called surface phenomena?
- 19)** What is fractional distillation?
- 20)** Write the names of two divisions included in Phanerogams.
- 21)** Write functions of guard cells of stomata in the leaf.

Answer the following questions in about 20-30 words:

2 X 8=16

- 22)** A car from rest moves with a uniform acceleration of 2 m/s^2 for 10 minutes. Calculate the acquired speed and the distance travelled in this time.
- 23)** Velocity of sound in a given medium is constant. Explain.
- Or**
- In which medium the speed of sound will be greater -air or water? Give reason for your answer.
- 24)** Why solid carbon dioxide is called dry ice? Give two uses of dry ice.
- 25)** Calculate the mass of 0.72 g molecule of CO_2 .
(At mass of C=12 u, O=16 u)

- 26)** Write the distribution of electrons in helium and hydrogen atoms.

- 27)** List any three human activities which could lead to an increase in carbon dioxide content of air.
- 28)** Distinguish between chloroplast and leucoplast with respect to their pigments and function.
- 29)** Name the tissue present in the hard covering of seeds. Which chemical is responsible for making the tissue hard?

Answer the following questions in about 40-60 words:

3 X 7=21

- 30)** Explain any three methods of weed control.
- 31)** We know that carbon dioxide is essential for plants for photosynthesis. Yet, why do we consider it a pollutant?
- 32)** The doctor diagnosed that Lata has lost the power of fighting any infection.
(a) Name the disease Lata is suffering from.
(b) Name the pathogen responsible for the cause of the disease.
(c) Mention any two modes of transmission of the disease from one person to another.
- 33)** 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.

Or

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

- (a) Ammonium sulphate
(b) Magnesium bicarbonate
(c) Barium nitrate
- 34)** State the observations from the α -particle scattering experiment which led Rutherford to make the following conclusions:
(a) Most of the space in an atom is empty.
(b) Entire mass of an atom is concentrated in its centre.
(c) Centre is positively charged.
- 35)** 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.

- 36)** 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.

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 $G = 6.7 \times 10^{-11} \text{ Nm}^2/\text{kg}^2$.

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

37)

- (a) What is an octet? How does an element reach an octet state?
(b) Draw a schematic atomic structure of magnesium and phosphorous (Number of protons of magnesium=12, phosphorous=15).

38)

- (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 ($g = 10 \text{ m/s}^2$).
(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)

39)

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

