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INDIAN SCHOOL SALALAH
FIRST TERM EXAMINATION – SEPTEMBER 2025



SCIENCE – Code No. 086

Class: VIII

Date: 21/09/2025

Time: 3 hours

Maximum Marks: 80

General Instructions:

- a. This question paper consists of 39 questions in 3 sections. Section A is Biology, Section B is Chemistry and Section C is Physics.
- b. All questions are compulsory. However, an internal choice is provided in some questions. A student is expected to attempt only one of these questions.

SECTION A- BIOLOGY

- 1 Which among the following is a cardiovascular disease? 1
 - A. Malaria
 - B. Chicken pox
 - C. Tuberculosis
 - D. Heart attack
- 2 Plants which are brown, hard and woody stem, with branches arising from the base of the stem are classified as 1
 - A. Herbs
 - B. Climbers
 - C. Shrubs
 - D. Trees
- 3 Identify the correct match from the following. 1
 - A. Hydra and Jelly fish - Porifera
 - B. Round worm and filarial worm - Reptiles
 - C. Snail and Octopus - Mollusca
 - D. Pigeon and sparrow – Arthropoda
- 4 A bacteria which converts milk to curd 1
 - A. Lactobacillus
 - B. Diatoms
 - C. Spirulina
 - D. Chlorella

- 5 Which vitamin deficiency causes fatigue, numbness, and memory problems? **1**
- A. Vitamin B1
 - B. Vitamin B12
 - C. Vitamin D
 - D. Vitamin C
- 6 Arrange the levels of organisation in the correct order: **1**
- A. Cell → Organ → Tissue → Organism → Organ system
 - B. Tissue → Cell → Organ system → Organ → Organism
 - C. Cell → Tissue → Organ → Organ system → Organism
 - D. Organism → Organ → Organ system → Tissue → Cell
- 7 Bhuvan was asked to identify the correct set of dicot seeds, some examples are given below. You are asked to help Bhuvan to identify the correct option from the following examples. **1**
- A. Wheat, maize, gram, pea
 - B. Chick pea, bean, mango, pea
 - C. Maize, peas, bean, rice
 - D. Rice, kidney bean, maize, pea
- The following one question consists of two statements – **Assertion (A)** and **Reason (R)**. Answer this question by selecting the appropriate option given below:
- A. Both A and R are true, and R is the correct explanation of A.
 - B. Both A and R are true, and R is not the correct explanation of A.
 - C. A is true but R is false.
 - D. A is false but R is true.
- 8 **Assertion (A):** Carbohydrates are the main source of energy to our body. **1**
- Reason (R):** The main sources of carbohydrates are butter, paneer and meat.
- 9 How are animals classified on the basis of their habitat? **2**
- 10 Name the following: **2**
- a. A nutrient which is essential for growth
 - b. A component of food which plays a key role in digestion.
 - c. A medium for transport of nutrients.
 - d. A mineral which is important for strong bones and teeth.
- 11 Akhil and Roshan are students of class VIII, as part of their school project they started collecting fallen leaves, fruit and vegetable peels in a huge container and put a layer of **3**

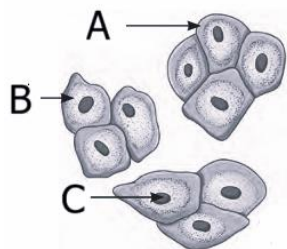
soil on it and left it aside. After three weeks they observed some changes. The fallen leaves, fruit and vegetable peels turned into a dark-coloured material, the manure.



- a. Explain how fallen leaves, fruit and vegetable peels turn into manure.
 - b. How does the manure formed by plant waste help the soil?
 - c. Name the two factors necessary for manure formation.
- 12
 - a. During a heavy storm, a big tree was uprooted. Hadiya noticed that many thick roots were spread wide in the soil. What kind of root system does this tree have? Why do such trees easily get uprooted during storms? 3
 - b. Why is it necessary to remove weeds?
- 13 Arjun, Hassan and Joy along with his friends were staying in a school hostel, Joy and his friends developed flu with symptoms like fever, cough, runny nose, and sore throat. Within a week, almost 15 other students also started showing the same symptoms. The warden noticed that the students often shared towels, water bottles, and played together closely. The school doctor explained that such communicable diseases can spread easily by several modes of transmission. 4
 - A Name any two ways in which diseases like flu can be transmitted.
 - B What are the symptoms seen in Joy and his friends? (Any two)
 - C(I) **Attempt either option (I) or (II).**
How are communicable diseases different from non-communicable diseases?

OR

 - C(II) Suggest any two measures to be taken to prevent the spread of communicable diseases.
- 14(I) **Attempt either option (I) or (II).** 5
 - a. Given below are human cheek cells observed under a microscope. Identify the labelled part A, B and C and write the function of 'C'



- b. State any two differences between plant cell and animal cell.
- c. Define tissue.

OR

- 14(II) a. The diagram given below is a human cell. Identify the cell and mention its function.



- b. Draw a plant cell and label the three main parts.
- c. How are unicellular organisms different from multicellular organisms?

SECTION B - CHEMISTRY

- | | | |
|----|---|----------|
| 15 | The metal which is liquid at room temperature: | 1 |
| | A. carbon
B. Mercury
C. Oxygen
D. Bromine | |
| 16 | Which of the following is obtained from coal tar? | 1 |
| | A. CNG
B. Diesel
C. LPG
D. Naphthalene balls | |
| 17 | The property of metals by which they can be beaten into thin sheets is called | 1 |
| | A. Malleability
B. Ductility
C. Conduction
D. Expansion | |
| 18 | What is the process of separating petroleum into its various constituents called? | 1 |
| | A. Refining
B. Carbonisation
C. Distillation
D. Winnowing | |

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19 **Assertion(A):** Melting ice into water is an example of the transformation of a solid into a liquid **1**

Reason(R): The solids which have strong attractive forces have low melting points

20 A student says that graphite is a metal because it conducts electricity. Do you agree or disagree? Justify your answer. **2**

21 Exhaustible natural resources like coal, petroleum and natural gas were formed from the dead remains of living organisms. Explain why fossil fuels are exhaustible natural resources. **2**

22 When spilled on the table, milk in a glass tumbler flows and spreads out, but the glass tumbler stays in the same shape. Justify this statement. **2**

23 A. Materials are broadly grouped into metals and non-metals on the basis of their physical and chemical properties. Compare the physical properties of metals and non-metals (2 points). **3**

B. Complete the following table.

METAL/NON-METAL	OXIDE FORMED	NATURE OF OXIDE
Magnesium	Magnesium oxide	_____I_____
Sulphur	_____II_____	acidic

24 Which of the following statements are true? Give reason for the false statement/s, if any. **3**

(i) The melting process involves an increase in inter-particle attractions during the transformation.

(ii) Liquids have a fixed shape and a fixed volume.

(iii) The inter-particle interactions in solids are very strong, and the inter-particle spaces are very small.

(iv) When we heat camphor in one corner of a room, the fragrance reaches all corners of the room.

25 Coal is one of the most important fossil fuels used by humans for centuries. It was formed millions of years ago from the remains of dead plants that got buried under the earth's surface. Over time, with heat and pressure, these remains turned into coal, a black, hard substance rich in carbon. There are different types of coal such as peat, lignite, bituminous, **4**

and anthracite, based on the amount of carbon and energy they contain. The higher the carbon content, the better the quality of coal. Coal can also be processed through destructive distillation to produce useful substances. These are used in manufacturing chemicals, dyes, fertilizers, and synthetic materials. However, the excessive use of coal has a downside. Burning coal releases carbon dioxide and other harmful gases into the atmosphere, leading to air pollution and global warming. That's why scientists and governments are encouraging the use of cleaner and renewable energy sources.

A Name any **two by-products** of coal obtained through destructive distillation.

B List any two uses of coal.

C(I) **Attempt either option (I) or (II).**

Can coal, petroleum and natural gas be prepared in the laboratory from dead organisms? Why?

OR

C(II) If coal is formed from dead plants buried under the Earth millions of years ago, what would happen if we continue to use coal at the current rate for the next 100 years? (2 points)

26(I) **Attempt either option (I) or (II).**

5

a. Define boiling point and melting point.

b. Why do gases mix easily, while solids do not?

c. Draw the particle arrangement in aluminium foil and Methane gas.

OR

26(II) Study the table below and answer the following questions

Substance	Particle Arrangement	Force of Attraction	Movement of Particles
Water	Moderately packed	Moderate	Slide past each other
Oxygen	Far apart	Very weak	Move freely and fast
Iron	Closely packed	Strong	Vibrate in place

a) Which substance is a gas? How do you know?

b) Which substance flows but does not fill the entire space of a container? Why?

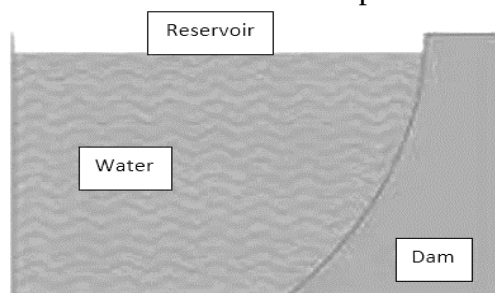
c) Which substance has a fixed shape and volume?

d) Arrange the substances in increasing order of particle movement.

SECTION C - PHYSICS

- 27 Observe the shape of this dam. Why do you think the base is so broad compared to the top? 1

- A. To store more water
- B. To resist the pressure of water
- C. To look taller
- D. To reduce evaporation



- 28 Two objects repel each other. This repulsion could be due to 1

- A. Frictional force only
- B. Electrostatic force only
- C. Magnetic force only
- D. Either a magnetic or an electrostatic force

- 29 Arrange the following planets in order of increasing temperature (surface average): 1

Mars, Mercury, Venus, Earth

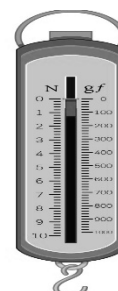
- A. Mars → Earth → Mercury → Venus
- B. Venus → Mercury → Earth → Mars
- C. Mercury → Venus → Earth → Mars
- D. Mars → Mercury → Earth → Venus

- 30 What is the unit of pressure? 1

- A. Nm
- B. Nm²
- C. N/m²
- D. N/m

- 31 Identify the instrument used for measuring weight. 1

- A. Beam balance
- B. Spring balance
- C. Hydrometer
- D. Thermometer



- 32 During a lunar eclipse, the Moon appears darkened. Which of the following explains this? 1

- A. The Moon moves behind the Sun
- B. The Earth blocks sunlight from reaching the Moon
- C. Clouds cover the Moon in the sky
- D. The Moon's light goes out

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33 **Assertion (A):** Water begins to flow towards the ground as soon as we open a tap. 1
Reason (R): It is because of the force of gravity, which makes things fall towards the earth as it pulls them.

34 **A. 1.** The weight of an elephant is 4000 N. The surface area of the sole of its 2
foot is 0.1m^2 . Calculate the pressure exerted by one foot of an elephant.
2. The pressure of a gas contained in a cylinder with a movable piston is 300 Pa. The area of the piston is 0.5 m^2 . Calculate the force that is exerted on the piston.

OR

B. There are two boats, A and B. Boat A has a base area of 7m^2 , and 5 persons are seated in it. Boat B has a base area of 3.5m^2 , and 3 persons are seating in it. If each person has a weight of 700N, find out which boat will experience more pressure on its base and by how much?

35 a) Define one Pascal. 3
b) Hang two balloons side by side and blow air between them. What happens to the balloons? What does this show about the wind and pressure?
c) We are not crushed under atmospheric pressure. Give reason.



36 a) Observe the table and answer the following questions. 3

Object	Weight	Buoyant force
Iron nail	2N	0.5N
Wooden toy	1.5N	1.5N
Plastic ball	1N	1.2N

- i. Which object sinks? Why?
- ii. Which object rises upward in water? Why?
- b) Differentiate between weight and mass. (2 points)

- 37 a) Ankita is learning about constellations. She spots the Little Dipper in the sky and points out the Pole Star to her friends, explaining that it seems stationary. 3
- i. Draw a diagram to locate pole star.
 - ii. Why does the Pole Star appear stationary in the night sky?
- b) Ancient sailors navigated using stars, but today this is difficult in cities. Justify the statement.
- 38 On a Sunday morning, Meera went to the park with her younger brother. As they entered, they saw some children flying kites. The kites were soaring high in the sky because of the pull of the string and the push of the wind. Suddenly, Meera's brother slipped on the grass because the surface was wet, and he fell down. Later, they sat near the swing set. When Meera pushed the swing, it started moving back and forth. She noticed that when the swing reached its highest point, it slowed down for a moment before coming back. Meanwhile, a boy nearby was playing with a toy car by winding it with a rubber band. The rubber band stretched and then released to make the car move forward. While walking back home, they passed by a construction site where a big magnet was used to lift heavy iron rods. At the same time, Meera dropped her water bottle accidentally, and it fell straight to the ground. 4
- A Write one example of gravitational force and magnetic force acting in the situations described.
- B Meera's brother slipped on wet grass but didn't slip on the dry pathway. Explain in terms of friction.
- C(I) Attempt either option (I) or (II).
- During a community festival, a large food truck gets stuck on a muddy road. Three volunteers push the truck toward the main street with forces of 210 N, 180 N, and 150 N. At the same time, two other people, unaware of the situation, accidentally push the truck in the opposite direction with forces of 200 N and 120 N. Calculate the net force acting on the truck and state its direction.
- OR**
- C(II) During a school sports day, three groups of students are playing tug-of-war. On one side, Team A has three students who pull the rope with forces of 120 N, 150 N, and 130 N. On the opposite side, Team B has three students pulling with forces of 140 N, 160 N, and 120 N.
- a) Calculate the total force exerted by each team.
 - b) Find the net force acting on the rope.
 - c) Which side will the rope move?

- a) A new stadium was being built in a city. Engineers insisted on installing multiple lightning conductors around the structure before its opening ceremony. Some people argued it was unnecessary.
- What is a lightning conductor?
 - How do lightning conductors ensure the safety of people in large open places?
- b) With the help of a diagram describe an activity to show that air flows from a region of high pressure to a region of low pressure
- c) Why is it safer to keep doors and windows of the house open during storms with high-speed winds?

OR

- 39(II) a) Fig. a shows a boy lying horizontally, and Fig. b shows the boy standing vertically on a loose sand bed. In which case does the boy sink more in sand? Give reason.

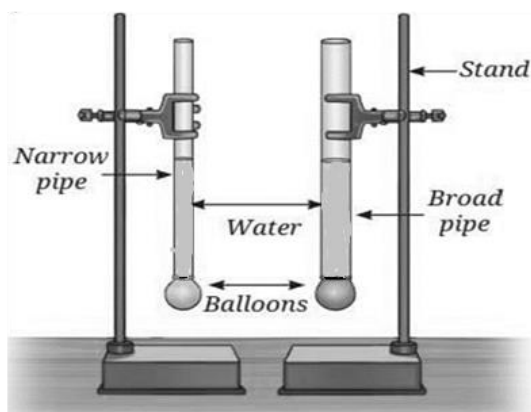


(a)



(b)

- b) A rubber sucker is pressed against a smooth surface.
- Why is it difficult to pull off a rubber sucker once it sticks to a smooth surface?
 - If the same sucker is pressed against a rough wall, will it stick equally well? Justify your answer.
- c) Observe the pictures A and B given below and write the related characteristics of liquid pressure.

**A****B**