



B.K. BIRLA CENTRE FOR EDUCATION

SARALA BIRLA GROUP OF SCHOOLS
A CBSE DAY-CUM-BOYS' RESIDENTIAL SCHOOL



PRE-MID TERM EXAMINATION 2025-26

SCIENCE

MARKING SCHEME (086)

Class: IX

Date: 07.08.25

Time: 1hour

Max Marks: 25

Section A

- | | | |
|----|---------------------|---|
| 1. | (d) All the above | 1 |
| 2. | (b) Distilled water | 1 |
| 3. | (b) | 1 |

Section B

- | | | |
|----|--|---|
| 4. | Newton's second law of motion states that the force acting on an object is equal to the rate of change of its momentum. In simpler terms, the acceleration of an object is directly proportional to the net force acting on it and inversely proportional to its mass. The mathematical expression for this law is $F = ma$, where F is the force, m is the mass, and a is the acceleration. | 2 |
| 5. | $a = 3 \text{ m/s}^2$
$F = 15 \text{ N}$
$m = F/a = 15 \text{ N} / 3 \text{ m/s}^2 = 5 \text{ kg}$ | 2 |
| 6. | <u>Homogeneous mixture</u>
Its constituent's particles cannot be seen easily.
There are no visible boundaries of separation in a homogeneous mixture.
Its constituents cannot be easily separated.
Examples: Alloys, solution of salt in water etc.
<u>Heterogeneous mixture</u>
Its constituent particles can be seen easily.
Have visible boundaries of separation between the constituents.
Its constituents can be separated by simple methods.
Examples: Mixture of sand and common salt, mixture of sand and water etc. | 2 |
| 7. | (a) Potassium - Element
(b) Soil- Mixture
(c) Calcium carbonate - Compound
(d) Blood- Mixture | 2 |
| 8. | (a) It has aerenchyma tissue with air-filled spaces that provide buoyancy.
(b) They have dense cytoplasm, a prominent nucleus, thin cell walls, and lack vacuoles. They are actively dividing cells responsible for plant growth. | 2 |

Section C

9. There are three types of inertia: 3
1. Inertia of rest: This is the tendency of an object to resist being set in motion. For example, when a bus starts moving suddenly, a passenger tends to fall backward because their body, initially at rest, resists the change in motion.
 2. Inertia of motion: This is the tendency of an object to resist changes in its state of uniform motion (constant speed and direction). For example, when a moving bus suddenly brakes, the passenger tends to continue moving forward due to inertia of motion.
 3. Inertia of direction: This is the tendency of an object to resist changes in its direction of motion. For example, when a car makes a sharp turn, a passenger may feel pushed towards the opposite direction due to inertia of direction.
10. (a) A particular kind of matter with uniform properties./Substance having single type of particles is known as pure substance. 3
(b) An alloy is a homogeneous mixture of two or more metals, or a metal and a non-metal.
Two common examples of alloys are brass and bronze
11. **Apical meristem** (at growing tips of roots and stems): responsible for primary growth (lengthening). 3
Lateral meristem (cambium in stems/roots): causes secondary growth (increase in girth).
Intercalary meristem (at internodes/bases of leaves): contributes to elongation in grasses and monocots
12. Phloem comprises sieve tubes (transport of food), companion cells (support sieve tubes), phloem parenchyma (storage and lateral transport), and phloem fibres (provide strength). 3