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## bbj

Class 9 - Science

Date: 02-10-2025

### Section A - Multiple Choice Questions

Q1. The process in which a gas changes directly into liquid state without passing through the solid state is called: (1 marks)

a. Melting
b. Sublimation
c. Evaporation
d. Condensation

Q2. Which cell organelle is known as the 'Powerhouse of the cell' because it produces ATP? (1 marks)

a. Nucleus
b. Mitochondria
c. Chloroplast
d. Endoplasmic Reticulum

Q3. If an object is taken from the Earth to the Moon, which of the following physical quantities will change? (1 marks)

a. Mass
b. Density
c. Volume
d. Weight

Q4. An atom of an element contains 6 protons and 6 neutrons. What is the mass number of this atom? (1 marks)

a. 6
b. 0
c. 12
d. 18

Q5. The primary function of Xylem tissue in plants is the transport of: (1 marks)

a. Sugars and manufactured food
b. Water and dissolved minerals from the roots

c. Hormones synthesized in the shoot tip

d. Amino acids only

Q6. A body continues to be in its state of rest or uniform motion unless acted upon by an external force. This principle defines: (1 marks)

a. Law of conservation of energy

b. Newton's First Law of Motion (Law of Inertia)

c. Newton's Second Law of Motion

d. Newton's Third Law of Motion

## Section C - Short Answer Questions

Q7. Define acceleration and state its SI unit. If a bus starting from rest attains a speed of 30 m/s in 10 seconds, calculate its acceleration. (3 marks)

Q8. Briefly state the primary functions of two important cell organelles: (i) Ribosomes and (ii) Smooth Endoplasmic Reticulum (SER). (3 marks)

Q9. Differentiate between a True Solution and a Suspension based on (i) particle size and (ii) stability. (3 marks)

Q10. State Newton's Second Law of Motion. Give the mathematical relation derived from this law, and define the resulting unit of force. (3 marks)

Q11. Explain why organisms like Viruses are often considered controversial or are excluded from R.H. Whittaker's Five Kingdom Classification system. Give two reasons. (3 marks)

Q12. Describe the two major limitations of Rutherford's model of the atom concerning atomic stability. How did Niels Bohr attempt to overcome these limitations? (3 marks)

Q13. List any three general principles that are essential for the prevention of infectious diseases in a community. (3 marks)

Q14. Describe the critical role played by the bacterium Rhizobium in the Nitrogen Cycle and how this contributes to crop improvement. (3 marks)