

**BCM SCHOOL Basant Avenue Dugri Road Ludhiana**  
**Class-IX Subject - Science Date- Sept 4, 2025**

**General instructions -**

**This assignment consists of ten questions in two sections**

**Section -A is Biology and Chemistry and Section -B is Physics**

**Section -A (Biology and Chemistry)**

Q1.	What is the percentage of solute if the solution is 500 mL and the solvent is 300 mL? (a) 30%. (b) 40%. (c) 50%. (d) 60%	1
Q2.	A student took two china dishes and marked them as I and II. In china dish I, she mixed iron filings and sulphur powder. In china dish II, she mixed iron filings and add dilute hydrochloric acid. Which of the following statements is correct regarding this activity? (a) A colourless and odourless gas comes out from china dish II. (b) In china dish II, a new compound is formed, which is different from iron filings and dilute hydrochloric acid. (c) In china dish I, a mixture is formed, where iron filings and sulphur powder can be seen separately. (d) All of these.	1
Q3.	Assertion (A): While serving juice to guests, Pankaj finds that ice is floating on juice even though it's solid. Reason (R): Ice is less dense than the liquid.	1
Q4	Which type of cell division is required for growth and repair of body and which type is involved in formation of gametes?	2
Q5.	$M_2CO_3$ is the formula for a metal's carbonate. (i) What would the iodide's formula be? (ii) On seeing the formula of the metal carbonate mentioned above, Hema stated that its nitride formula will be $M_3N$ . Give a suitable reason to support Hema's view. (iii) What will be the phosphate formula?	3
Q6	In a school, it was planned to have a plantation day. Metal plates bearing the botanical names of plants were supposed to be attached to the trunks of trees or plants. Shreya was concerned that if the metal plate was anchored into the tree, it might harm many of the tree's cells. However, his senior clarified that because the trunk contains dead cells, it will not be harmed.	



- (A) What type of tissue is found on the outer layer of the tree trunk?  
 (B) Differentiate between epidermis and cork.  
 (C) What makes cork cells impervious to gases and water? 4

### Section - B (Physics)

Q7.	If the radius of Earth shrinks without any change in its mass, then the value of 'g' on its surface will: A) Increase B) Decrease C) Remain the same D) Become zero	1
Q8.	Assertion (A): A gun recoils backward when a bullet is fired from it. Reason (R): The force exerted on the bullet and the force exerted on the gun are equal in magnitude and opposite in direction.	1
Q9.	During the game of football, a player kicks the ball with full force. The ball gains momentum but his foot also hurts. (a) Name the law of motion involved. (b) Why does the player feel pain? (c) If the mass of the ball is 0.5 kg and it is given a velocity of 20 m/s, calculate the momentum imparted to the ball.	3
Q10	A stone and a feather are dropped simultaneously in a vacuum tube. (a) What will you observe? (b) Why is this observation different from dropping them in air? (c) What does this experiment prove about acceleration due to gravity? (d) Why is mass of the object not a factor in free fall?	5

