

**BCM SCHOOL BASANT AVENUE DUGRI LUDHIANA**

**CLASS VII**

**SUBJECT -SCIENCE**

**CH- 10(Life Process in Plants and Heat transfer in Nature)**

**Answer key**

**Q 1 (D) Xylem**

**Q2(C) It is used during respiration to release energy for the plant's life activities.**

- (a) Both A and R are true, and R is the correct explanation of A.**
- (b) Both A and R are true, but R is not the correct explanation of A.**
- (c) A is true, but R is false.**
- (d) A is false, and R is also false.**

**Q 3 (C) A is true but R is false**

**Q 4 (d) A is false and R is true**

**Q 5 Leaves are green due to chlorophyll, which absorbs sunlight for photosynthesis. Their broad, flat shape maximizes the surface area exposed to sunlight for efficient energy capture**

**Q 6(1) Xylem tissue.**

**(2) It demonstrates the transport of water (carrying the ink) upwards through the plant's vascular system (xylem).**

**(3) No. Phloem transports food (sugars) primarily from the leaves downwards or to other parts, not water upwards from the stem base to the petals in this manner**

**Q7 During respiration, glucose is broken down in the presence of oxygen to produce carbon dioxide, water, and energy. The word equation is:  
Glucose + Oxygen → Carbon dioxide + Water + Energy. Energy released is used for plant growth and functions.**

**Q 8 A) Only the green patches contain chlorophyll, which absorbs sunlight to make starch via photosynthesis. Iodine turns blue-black only in the presence of starch. Non-green patches cannot make starch.**

**B) Without sunlight, the plant cannot perform photosynthesis. It uses up its stored food, leaving no starch in the leaf, so the iodine does not change color.**

**Q 9 (1) It indicates the presence of starch, meaning photosynthesis occurred throughout the leaf.**

**(2) The covered part would likely not turn blue-black (or show much less colour) because the black paper blocked sunlight, preventing photosynthesis and starch production in that area.**

**(3) The uncovered parts should turn blue-black. This experiment demonstrates that sunlight is necessary for photosynthesis (starch production) to occur in the leaf.**