

(Plant tissues and organs (xylem, phloem, stomata))

Q1.a)(2019)

(by the guard cells) opening **and**
closing the stomata

Q1.b)(2019)

(water is) transported in xylem

water evaporates (from leaves)

through the stomata

Q2.a)(2021)

A

Q2.b)(2021)

chloroplast(s)

Q2.c)(2021)

guard (cells)

Q2.d)(2021)

transpiration stream

Q2.e)(2021)

increased humidity

Q2.f)(2021)

Structure

- xylem is made of dead cells
and
phloem is made of living cells
- phloem cells have pores in their end walls
and
xylem cells do not have pores in their end walls
- xylem is hollow **or** xylem does not contain cytoplasm
and
phloem contains cytoplasm
- xylem contains lignin
and
phloem does not (contain lignin)
- both made of cells
- both tubular

Function

- xylem transports water / mineral ions
and
phloem transports (dissolved) sugars
- xylem is involved in transpiration
and
phloem is involved in translocation
- xylem transports unidirectionally
and
phloem transports bidirectionally
- both transport liquids / substances throughout the stem / leaves / roots / plant

For **Level 2**, students must refer to both structure and function of xylem and phloem tissue.

Q3.(2022)

guard (cells)

Q4.(2024)

palisade (mesophyll / layer / cells)

spongy mesophyll / layer

meristem

Q5.(2024)

lignin