

- 1) Movement of a solute across a cell membrane DOWN its concentration gradient (i.e. from an area of high to low concentration) and with the assistance of a membrane transporter/carrier protein is an example of
 - a) simple diffusion
 - b) facilitated diffusion**
 - c) active transport
 - d) an electrogenic pump
 - e) an energy-requiring process

- 2) The presence of a boundary layer will speed up the rate at which a solute diffuses across a cell membrane – TRUE or **FALSE**?

- 3) The apical and basolateral regions of epithelial cells are identical in their complement of membrane proteins – TRUE or **FALSE**?

- 4) A solute is in electrochemical equilibrium when
 - a) it is equally distributed across the membrane
 - b) there is no charge difference across the membrane
 - c) the force of the concentration gradient is offset by the force of the electrical gradient**
 - d) net diffusion occurs from the outside to the inside of the cell
 - e) net diffusion occurs from the inside to the outside of the cell

- 5) Enzymes can lower the activation energy (E_a) for a biochemical reaction, and thereby speed up the rate at which the reaction occurs – **TRUE** or FALSE?