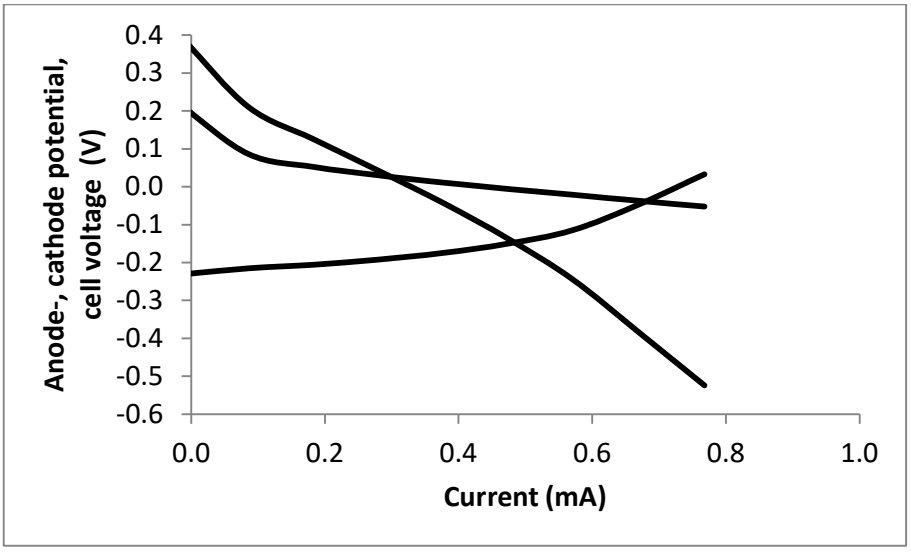
Q5-1: Identify which polarization curve shows (a) cell potential, (b) anode potential, and (c) cathode potential in the figure below.



Q5-2: A microbial electrolysis cell is operating at a current density of 10 A/m^2 (based on anode surface). Assume we can have 100 m^2/m^3 of anode surface in a reactor. What COD removal rate ($kg/m^3.d$) does the current correspond to?

Q5-3: Rya WWTP received about 4 m^3/s of wastewater. Assume the wastewater contains 150 mg/L of BOD. If the entire BOD was converted into electrical current, what would the current be?

Q5-4: Data from the operation of a microbial fuel cell is shown in the accompanying Excel file. Determine:

a) Acetate removal efficiency
b) Coulombic efficiency
c) Energy efficiency (if $\Delta H_{combustion,acetate}$ = -898 kJ/mol acetate)
d) Maximum power density
e) Maximum current density
f) Internal resistance of the microbial fuel cell