$\mathbf{F}(x,y,z) = xze^y\,\mathbf{i} - xze^y\,\mathbf{j} + z\,\mathbf{k}$, $z = g(x,y) = 5 - x - y$, and $D = \{(x,y) \mid 0 \le x \le 5, 0 \le y \le 5 - x\}$. Since S has downward orientation, we have

$$\begin{aligned} \iint_S \mathbf{F} \cdot d\mathbf{S} &= -\iint_D [-xze^y(-1) - (-xze^y)(-1) + z]\,dA \\ &= -\int_0^5 \int_0^{5-x} (5 - x - y)\,dy\,dx \\ &= -\int_0^5 \left(\tfrac{1}{2}x^2 - 5x + \tfrac{25}{2}\right) dx = -\tfrac{125}{6} \end{aligned}$$