Possible distributions of time-varying currents. Which of the four vectors defined in the previous question can be the density vector of a time-varying current in a conducting medium (consider the answers provided in the previous question)?

(A) $\mathbf{J}_1$ only.
(B) $\mathbf{J}_1$ and $\mathbf{J}_2$ only.
(C) $\mathbf{J}_1$ and $\mathbf{J}_4$ only.
(D) $\mathbf{J}_4$ only.
(E) All of the vectors.
(F) None of the vectors.

Solution: (E)
Answer: (E)