

Let $M_1 = \begin{bmatrix} 3 & 0 & 0 \\ 1 & 3 & 0 \\ 0 & 3 & 3 \end{bmatrix}$, $M_2 = \begin{bmatrix} -3 & 0 \\ 1 & -3 \end{bmatrix}$, $M_3 = \begin{bmatrix} 0 & 0 \\ 1 & 0 \end{bmatrix}$. Then

minimal polynomial of the matrix $\begin{bmatrix} M_1 & 0 & 0 \\ 0 & M_2 & 0 \\ 0 & 0 & M_3 \end{bmatrix}$ is

(a) $x^2(x-3)^3(x+3)^2$

(b) $x^2(x^2-9)$

(c) $x^2(x^2-9)^2$

(d) $x(x-3)(x+3)^2$