Universidade Federal de Viçosa
Centro de Ciências Exatas e Tecnológicas
Departamento de Matemática

Gabarito $4^{\underline{a}}$ Lista - MAT 137

1. $[(1,0,0)]_\beta = \begin{pmatrix} 1/3 \\ -1/3 \\ 1/3 \end{pmatrix}$.

2. $(a)[(4,5,3)]_C = \begin{pmatrix} 4 \\ 5 \\ 3 \end{pmatrix}, (b)[(4,5,3)]_C = \begin{pmatrix} 3 \\ 1 \\ 0 \end{pmatrix}, \quad (c)[(4,5,3)]_C = \begin{pmatrix} 41/11 \\ -10/11 \\ 3/11 \end{pmatrix}$.

3. $[t^3 - 2t^2 + 1]_\beta = \begin{pmatrix} 1 \\ -2 \\ 0 \\ -1 \end{pmatrix}$.

4. $[u]_\gamma = \begin{pmatrix} b-c \\ b \\ c+a-2b \end{pmatrix}$.

5. $\alpha = \{(-3,5),(1,-1)\}$ e $u = (-1,3)$.

6. $[I]_\gamma^\beta = \begin{pmatrix} -2 & -9 & 6 \\ -1 & -4 & 3 \\ 1 & 3 & -2 \end{pmatrix}, \quad [I]_\beta^\gamma = \begin{pmatrix} 1 & 0 & 3 \\ -1 & 2 & 0 \\ -1 & 3 & 1 \end{pmatrix}, \quad [u]_\gamma = \begin{pmatrix} -2 \\ 0 \\ 1 \end{pmatrix}$.

7. $(a)[v]_\beta = \begin{pmatrix} 2 \\ -3 \\ -1 \end{pmatrix}, \quad (b)[v]_{\beta'} = \begin{pmatrix} 1 \\ 1 \\ -4 \end{pmatrix}$.

8. $(b)\ A = \begin{pmatrix} \frac{1}{2} & \frac{1}{2} & -\frac{1}{2} \\ -\frac{1}{2} & \frac{1}{2} & \frac{1}{2} \\ \frac{1}{2} & -\frac{1}{2} & \frac{1}{2} \end{pmatrix}$ e $A' = \begin{pmatrix} 1 & 0 & 1 \\ 1 & 1 & 0 \\ 0 & 1 & 1 \end{pmatrix}$.

   (c) São as colunas de A, respectivamente:

   $\begin{pmatrix} 1/2 \\ -1/2 \\ 1/2 \end{pmatrix}, \begin{pmatrix} 1/2 \\ 1/2 \\ -1/2 \end{pmatrix}$ e $\begin{pmatrix} -1/2 \\ 1/2 \\ 1/2 \end{pmatrix}$,

   $(d)\ \begin{pmatrix} -3 \\ 1 \\ 4 \end{pmatrix}$.