b/

$$ABXC = B^T$$
$$\Rightarrow BXC = A^{-1}.B^T$$
$$\Leftrightarrow XC = B^{-1}.A^{-1}.B^T$$
$$\Leftrightarrow X = B^{-1}.A^{-1}.B^T.C^{-1}$$

c/ $AX^TBC = B$

$$\Rightarrow X^T = A^{-1}.B.C^{-1}.B^{-1}$$
$$\Rightarrow X = B^{T-1}.C^{T-1}.B^T.A^{T-1}$$

Bài 10:

$$A = \begin{pmatrix} -1 & 3 \\ 0 & 1 \end{pmatrix} \Rightarrow A - \lambda I = \begin{pmatrix} -1-\lambda & 3 \\ 0 & 1-\lambda \end{pmatrix}$$

$$\det(A - \lambda I) = 0$$
$$\Leftrightarrow (1-\lambda)(-1-\lambda) = 0$$
$$\Rightarrow \lambda_1 = 1;\ \lambda = -1$$

Với $\lambda = 1$

$$(A - I)x = 0$$
$$\Rightarrow x = \begin{bmatrix} 3 \\ 0 \end{bmatrix}$$

Với $\lambda = -1$

$$\Rightarrow (A + I)x = 0$$
$$\Leftrightarrow x = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$