Bilkent University

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Q-1) Let X be the projective twisted cubic in $\mathbb{P}^3_k$, where k is an algebraically closed field.

  (i) Find an ideal J in $k[x, y, z, w]$, where we take $[x \colon y \colon z \colon w]$ as homogeneous coordinates for $\mathbb{P}^3$, such that $Z(J) = X$.

  (ii) Calculate $I(X)$ in $k[x, y, z, w]$.

Solution: