Nowadays public-key cryptosystems such as RSA are threatened by quantum computing. Therefore, a post-quantum standardization process was initiated by NIST in 2017. As of today, several cryptosystems have been selected for standardization and several still remain in the process. A cryptosystem based on coding theory - Classic MeEliece - is one of the cryptosystems that might be standardized. This thesis covers McEliece and Niederreiter cryptosystems as well as their rank-metric variants (GGPT cryptosystem). Sidelnikov-Shestakov's attack is explained in detail and an example of the attack is given. Stern's and Overbeck's attacks are discussed as well. Furthermore, a new polynomial-time attack against GGPT without distortion matrix X is given.