

In this study, an experimental study has been conducted to determine compressive strength of asphalt concrete. The scope of study by preparing 45 Marshall samples Marshall stability experiment was conducted and compressive strength of asphalt concrete was determined. Compressive strength of asphalt concrete as depending on bituminous amount prediction models were developed by using obtained experiment results. Compressive strength of asphalt concrete values as depending on bituminous amount have been estimated on prediction models developed with regression analyses and Artificial Neural Network (ANN) Methods. Results obtained from models were compared with experiment results. Prediction performances of developed models were evaluated as compared. As a result it was determined that possible to estimate the compressive strength of asphalt concrete as depending on bituminous amount with developed ANN model and that ANN model was more successful than regression model for estimating the compressive strength of asphalt concrete.