Abstract
In this study, the effects of air nozzles called jetring or nozzlering, on yarn quality which is used as an additional process in conventional ring spinning machines have been investigated. The response surface methodology (RSM) was used to investigate the yarn properties value. In the experiment, Ne30/1 100% cotton fibers were used. In all jetring yarn productions, the air pressure was kept at 125 kPa (gauge). In all samples, the nozzle length was kept 27 mm and twisting chamber diameter was kept Ø2 mm. The number of injectors has been kept constant as 4 pieces. Giving the best yarn quality as a result of RSM, injector diameter Ø0.5 mm and injector angle 35° as determined. With this nozzle structural configuration, yarn hairiness values were reduced by 9.2% but yarn irregularity values were increased by 0.7%, yarn elongation values were decreased by 6.2% and yarn tenacity (cN/tex) values decreased to 5.6.