Cellulose is degraded completely by synergistic action of endoglucanase, exoglucanase and β-glucosidase called as cellulases. They can be produced by varieties of fungi and bacterial species. Aspergillus species have a great attention because they have high cellulase production capacity. There are two main problems for production of cellulases. One of these is the high cost of cellulase production. The latter is the optimization of fermentation condition for making process economically. The solutions of these problems are key factors for effective using of cellulases in industrial applications. Submerged fermentation (SmF) is generally favored method for production of cellulase with high yield, but it is necessary to find new microbial sources which produce optimum amount of cellulase. The aim of this study is to optimize endoglucanase production from local isolate A. niger HBF 39. Some parameters (pH, temperature, carbon sources (cellulose and CMC)) for endoglucanase production from local isolate Aspergillus niger HBF 39 were optimized under SmF. After production of enzyme, the obtained culture supernatant was used for determining optimum temperature and pH of endoglucanase. In conclusion, the optimum endoglucanase production was obtained in SmF containing cellulose at pH 3.0 and 35°C.