## CHAPTER 4 CONCLUSTION

In this work, we study integro-differential equations with variable coefficients. They are usually difficult to solve analytically. In many cases, it is required to approximate solutions. For this purpose, we presented some methods which can be obtained approximate solutions.

If the functions P(x), Q(x), R(x), f(x) and  $K(x, \xi)$  can be expanded to the Taylor series in given interval or Chebyshev series in  $-1 \le x, \xi \le 1$ , then the approximate solutions can be obtained by our methods; otherwise the method may not be used.

To get the best approximating solution of the equation, we must take more terms from the Taylor and Chebyshev expansions of functions; that is the truncation limit N must be chosen sufficiently large.

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