

CHAPTER 5 CONCLUSION AND RECOMMENDATION

5.1 Conclusion

The objective of this thesis is to comparisons between FDM-13 point stencil method, FDM 25-point stencil method and IRBF 5-point method for solving biharmonic problem in two dimensions.

The firstly, we comparisons between FDM-13 point stencil method and FDM 25-point stencil method, which the result is FDM 25-point stencil has efficiency rather than FDM 25-point stencils because of FDM 25-point stencil used the operation count for all iteration, the number of iterations and elapsed time of convergence less than FDM-13 point stencil.

The finally, we constructed one dimension integrated radial basis functions (IRBFs), where second-order derivatives at neighboring nodes are also included into the IRBF approximations. The present a local IRBF method is successfully verified; numerical results show that IRBFs 5-point stencil for solving biharmonic problem has efficiency rather than FDM 25-point stencil at 4th order accuracy because of IRBF 5-point stencil used the operation count for all iteration, the number of iterations and elapsed time of convergence less than FDM-25 point stencil.

5.2 Recommendation

In this thesis, we have studied the comparisons between FDM-13 point stencil method, FDM 25-point stencil method and IRBF 5-point stencil method for solving biharmonic problem in two dimensions. In the future, we compare the proposed method with the other problems to be aware that the method can be applied to other problems or not.