

## CHAPTER V

### CONCLUSIONS

From the present work, it can be concluded that:

1. The activity and productivity of polyethylene by  $\text{Cp}_2\text{ZrCl}_2\text{-B}(\text{C}_6\text{F}_5)_3$  with TEA increased as  $[\text{Zr}]$  increased at constant Al/Zr ratio.
2. The maximum productivity with TEA was obtained at Al/Zr ratio = 50 whereas in TBA system, the maximum productivity was achieved at Al/Zr ratio = 550.
3. Increasing reaction temperature increased both the activity and productivity in the range 20-50 °C.
4. The melting point of PE from the TEA and TBA systems was the same.
5. Changing in Al/Zr ratio did not affect the crystallinity.
6. Polyethylene produced at higher temperature had higher degree of crystallinity.