Conclusion

We conclude the thesis by giving some suggestions for further study.

The outerplanarity [53] of iterated star-line graphs can be investigated. It would also be interesting to study the (t)-property [4] in the class of H-line graphs. The behaviour of \( L_H(G) \) when \( G \) is a Cartesian product, direct product etc. can be studied in detail. Also, one can attempt to study the relationship between the graph parameters like radius, diameter, domination number of \( G \) and \( L_H(G) \) for particular choices of \( H \).
The characterization of cycle graphs is still an open problem. Although, it seems difficult to get a complete characterization, one may try to get a characterization for cycle graphs which belong to some particular classes. In this thesis, we have obtained the condition for cycle graph to be connected. Hence, the relationship between $\kappa(G)$ and $\kappa(Cy(G))$ in the class of graphs where $Cy(G)$ is connected can be studied in detail.

The power domination problem is a very vibrant area today. Since the problem is NP-hard for general graphs, a result for some particular classes is significant. Characterization of graphs with $\gamma_p(G) = 1$ and that of graphs with $\gamma_p(G) = \gamma(G)$ is particularly interesting. Also, characterization of graphs with $\gamma_P(\mu(G)) = 1$, $\gamma_P(\mu(G)) = \gamma_p(G)$, $\gamma_P(\mu(G)) = \gamma_p(G) + 1$ may be attempted. The generalized Mycielskian of cycles form a network like structure. Hence, its power domination number and network parameters-degree, diameter, cost can be obtained and compared with other networks. The relationship between the power domination number and the zero forcing number discussed in [22] can be studied in detail.