CONCLUSION

In the thesis, various graph theoretic models involving graph cuts are studied. Graph cut models for mainly three types of structures viz. *uniformly smooth structure, segment wise smooth structure* and *universally constant structure* are studied in the thesis. Optimization of variety of objective functions using graph cuts in different move spaces is studied in detail in the thesis. The study concludes that, an objective function can be minimized using graph cuts provided it is *FNO- optimizable.* Characterizations of two classes of FNO – optimizable functions (O^2 and O^3) are given and many mathematical results in this regard are proved in the thesis. These characterizations contribute in easily identifying the image processing problems which can be addressed through graph cuts notion. However, further exploration of the concepts studied/ defined in the thesis is required to strengthen the designed mathematical framework. Due to programming limitation on our part, we could not construct a computationally time-effective computer program encoding the graph-cuts model. There is a good scope of improvement in the implementation of graph theoretic models designed in the present work on appropriate programming platform.