CHAPTER 9

CONCLUSIONS
The objectives laid down for every tackled problem have been achieved in this work. For every problem optimized neural networks have been developed. These neural networks consist of nodes with some pattern of interconnections between them. Some of these can be used in real life as a part of decision support systems.

The data sets, for development of neural networks, were collected, at the first instance in real time mode. The data sets, in this work, have been processed in the off line mode. The end result is the development of optimized neural networks. The topologies of these networks vary depending on the nature of data used during the training and testing phases.

A large number of neural networks were developed for prediction of occurrence of avalanches. Neural networks were optimized to achieve highest accuracy of prediction of an avalanche. Parameters contributing towards this high accuracy have been identified.

For recognition of printed Bangla and handwritten Gurmukhi, a large number of neural networks were developed. Features of Bangla and Gurmukhi languages that are used for recognition have been used as inputs to the neural networks developed. Objective of achieving highest level accuracy was achieved. Impacts of various features used have been observed.

Prediction of Nifty ten weeks ahead has been achieved. The data collected had many missing data. By pre processing of the data, this problem was overcome. Experiments were carried out to identify an optimized neural network for most accurate prediction of Nifty ten weeks ahead.

Photographs of one subject were taken to represent twenty six alphabets of English language and ten numerals. To represent every alphabet and numeral, ten photographs were used. This has ensured that impact of variations in the hand signs is minimized. After image processing, the presence or absence of features were used as inputs to neural network. By following a systematic
arrangement an optimized neural network has been developed to provide highest accuracy of recognition.

In case of eye diseases, the images are taken by experts. These images were pre-processed. Using pattern recognition techniques, occurrence or absence of features has been identified. These features were used as input to neural network to generate output. The ophthalmologists identified the outputs as specific type of eye diseases. By varying parameters, a number of neural networks were developed. An optimized neural network has been developed for achieving highest accuracy.

Neural networks are useful for finding solutions to problems for which no real mathematical models exist. Based on the facts available, topology of a neural network can be chosen. After its training, it can identify the possible output states. These can be correlated to desired results.