The problem of extracting desired information directly from remotely searched data is not yet been solved. Often computer classification for the multispectral digital images is typically done by applying “Simple Symmetric” decision rule to each element “Pixel”. Classification based on pixel based approaches to image analysis is limited now a days. Typically they have considerable difficulty dealing with the rich information content of very high resolution or moderate resolutions such as landsat or spot data; they produce a characteristic in consistent salt and pepper classification and they are far from being capable of extracting objects of interest. Therefore, the vast majority of operational projects can be realized only by means of massive human interaction. Due to this application of new type supervised classification process is now bringing into polygon base. It is necessary to make their content manageable which requires one or more preferable meaningful image segmentations.
Image classification based on fuzzy logic is relatively young theory. Major advantages of this theory are that it allows the natural description, in linguistic terms of problems that should be solved rather than in terms of relationships between precise numerical values. This advantage dealing with complicated the systems in a simple way, is the main reason why fuzzy logic theory is widely applied in technique.

It is also possible to classify the remotely sensed image "as well as any other digital Imagery" in such a way that certain land cover classes clearly represented in the resulting image.

One important aspect of the modern image analysis is to exploit the structural content of the high resolution data. This can be achieved by the knowledge based approaches where the application dependent knowledge is to strictly separated from the control of information processing. One of the modern strategies is the expert system, where the spectral spatial and contextual information of the class of interest are organized in a frame work and control by reasoning strategies.
In the present study, knowledge base representing the spectral, spatial and contextual keys for classification of individual urban classes are constructed for this purpose. The classification achieved is verified for thematic accuracy and the classification accuracy to evaluate object based methodology to ascertain its applicability to various sensor and data.

Also in this study, an attempt is made to achieve level 3 urban land use classification, remote sensing data through object based approach. Level 3 classification adopted in this study is done independently for IRS 1C PAN, merged LISS III+ PAN and IKONOS data. Classification followed in the IKONOS data classification is different owing to the depiction of urban cover in detail due to the high resolution.

The study is focused and the classification is done using knowledge base designed with a set of fuzzy rules formulated on the objects extracted through the multi resolution segmentation and compared with the conventional classification results. The goal is to evaluate the object based classification techniques that make use of structural and spatial information of the urban land use classes. Two important tasks involved are:
(i) The extraction of the objects having optimum information related to the urban land use classes and the classification; and

(ii) Classification of the various data sets using knowledge base formulated addressing spectral, spatial and contextual characteristics.

The conclusions made concerning the object based classification using the knowledge base management is essential for any land use classification, because of the high heterogeneity encountered in the urban scenes. The use of textural and morphological properties is more logical with respect to the urban scenes due to frequent changes in the land use. In the present scenario, where the cities are swelling with the migration from rural area beyond its economic and environment capacity, a detailed and up to date urban mapping is a basic tool for planning the development in urban areas.