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Sri Lanka

**DESIGN MODELS FOR THE PEAK VALUES OF DAILY,
DAY AND NIGHT, LOAD FORECASTING FOR THE
POWER SYSTEM IN SRI LANKA.**

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**Master of Science in Operational Research
Department of Mathematics**

B.A.S.PRIYANKA

November 2002.

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THESIS PRESENTED BY

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This thesis was submitted to the Department of Mathematics of
the University of Moratuwa, Sri Lanka
in a partial fulfillment of the requirements for
the degree of Master of Science.

Department of Mathematics
University of Moratuwa
Sri Lanka.
November 2002.

DECLARATION

The work presented in the thesis in part or whole has not been submitted for any other academic qualification at any institution.

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Abstract

Today, most of the countries use forecasting techniques to predict their future demand in electricity. But at present there is no such technique used in Sri Lanka except for the market forecast report which is prepared by the Resource Management Associates Pvt. Ltd. regarding the load forecasting. A country like Sri Lanka can not always depend on hydro-power. If we have an idea of the future demand we can plan and take necessary action.

In this thesis, I try to identify the best model for forecasting day and night peak values of electricity demand in Sri Lanka, for week-days as well as week-ends. Here I use more popular time-series techniques such as Double Exponential Smoothing and ARIMA Modeling.

I carried out the research by using two year data of the peak values of electricity demand in day and night of Sri Lanka. With the use of MINITAB package for double exponential smoothing, I tried all possible models and selected the best. After testing the adequacy of the fitted model, I could forecast for last three periods.

Secondly, using Box-Jenkins ARIMA techniques, I tried all possible models and selected the best. Here also check the model adequacy and forecast the last three values using the selected model.

Finally comparing both techniques, I selected the best model for a particular day- day time and night time.

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B.A.S.Priyanka.



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