

INDIAN INSTITUTE OF TECHNOLOGY JODHPUR

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MTech – Data Engineering **TIME SERIES ANALYSIS**

Plagiarism Report on **RESERVE BANK of INDIA BALANCE SHEET FORECASTING**

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Topic 6 to 9

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6. Key Findings and Time Series Insights

6.1 Correlation Patterns in Time Series

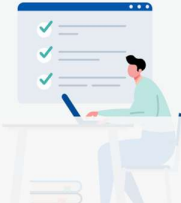
The analysis reveals strong correlations between deposits and loans across different sectors. From a time series perspective, this suggests:

Cointegration: Two or more time series that share a common stochastic trend, indicating long-run equilibrium relationships

Lead-Lag Relationships: The observation that government deposits decrease when loan advances rise suggests a temporal sequence where one series affects another with potential delays

Structural Breaks: Policy changes or economic events can create shifts in these relationships, visible as changes in correlation patterns over time

6.2 Asset Composition Trends



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Topic 10, References

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10. Conclusion and Future Directions

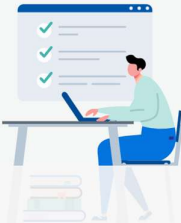
10.1 Summary of Time Series Contributions

This project successfully demonstrates comprehensive time series analysis applied to real-world financial data. The use of ARIMA models provides reliable short-term forecasts while the exploratory analysis reveals important relationships and trends in India's monetary system. The weekly frequency data offers granular insights into rapid changes in financial conditions, making it valuable for operational decision-making.

10.2 Methodological Strengths

The project's strengths include:

- Appropriate data preprocessing for time series analysis
- Systematic exploratory analysis revealing temporal patterns
- Use of established forecasting methodology (ARIMA)
- Clear visualization of historical trends and forecasts



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