Name : ……………………………………………………………

Roll No. : …………………………………………………………

Invigilator's Signature : ……………………………………….

CS/M.Phil (MGMT)/SEM-1/FIN-003/2010

2010

ECONOMETRIC AND STOCHASTIC TECHNIQUES IN FINANCE

Time Allotted : 3 Hours Full Marks : 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Answer question no. 1 and any *two* from the rest.

1. Answer any *two* of the following questions : 2 × 10

   a) What is meant by stationary of a time series ? Explain the economic implication of treating a Difference Stationary Process as a Trend Stationary Process.

   b) Do you think that testing for Granger causality is truly a test of 'causality' ?

   c) What are stylized facts of a financial time series ?

2. Why is it useful to use GARCH family models in modeling volatility of a financial time series ? How could such models test for leverage effects, volatility pooling and presence of risk premium ? 25

3. What is meant by volatility mean reversion and volatility persistence in the context of a financial market ? Describe suitable methods of modeling volatility of financial time series under these conditions. 25

4. What is meant by a cointegrating relationship ? While studying the volatility spill over among different stock markets, it is sufficient to check for the presence of cointegration only ? If not, why ? What are the suitable techniques that might be used then ? 25